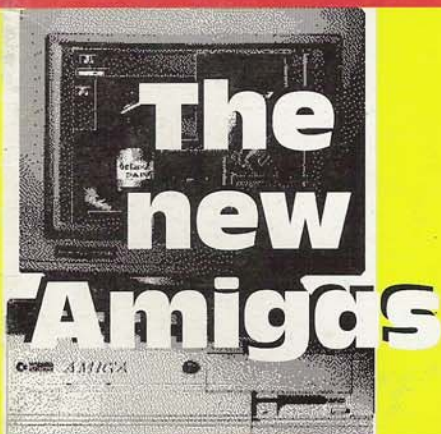


# Commodore **AMIGA**

# ANNUAL **1993**

A Gareth Powell Publication

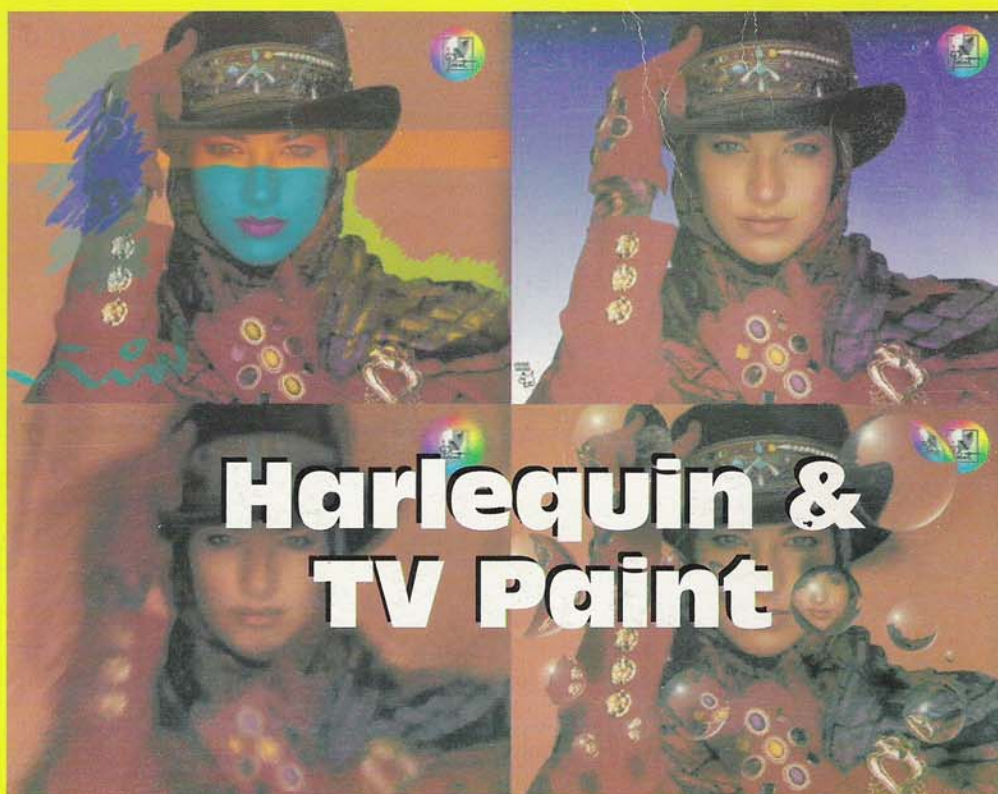


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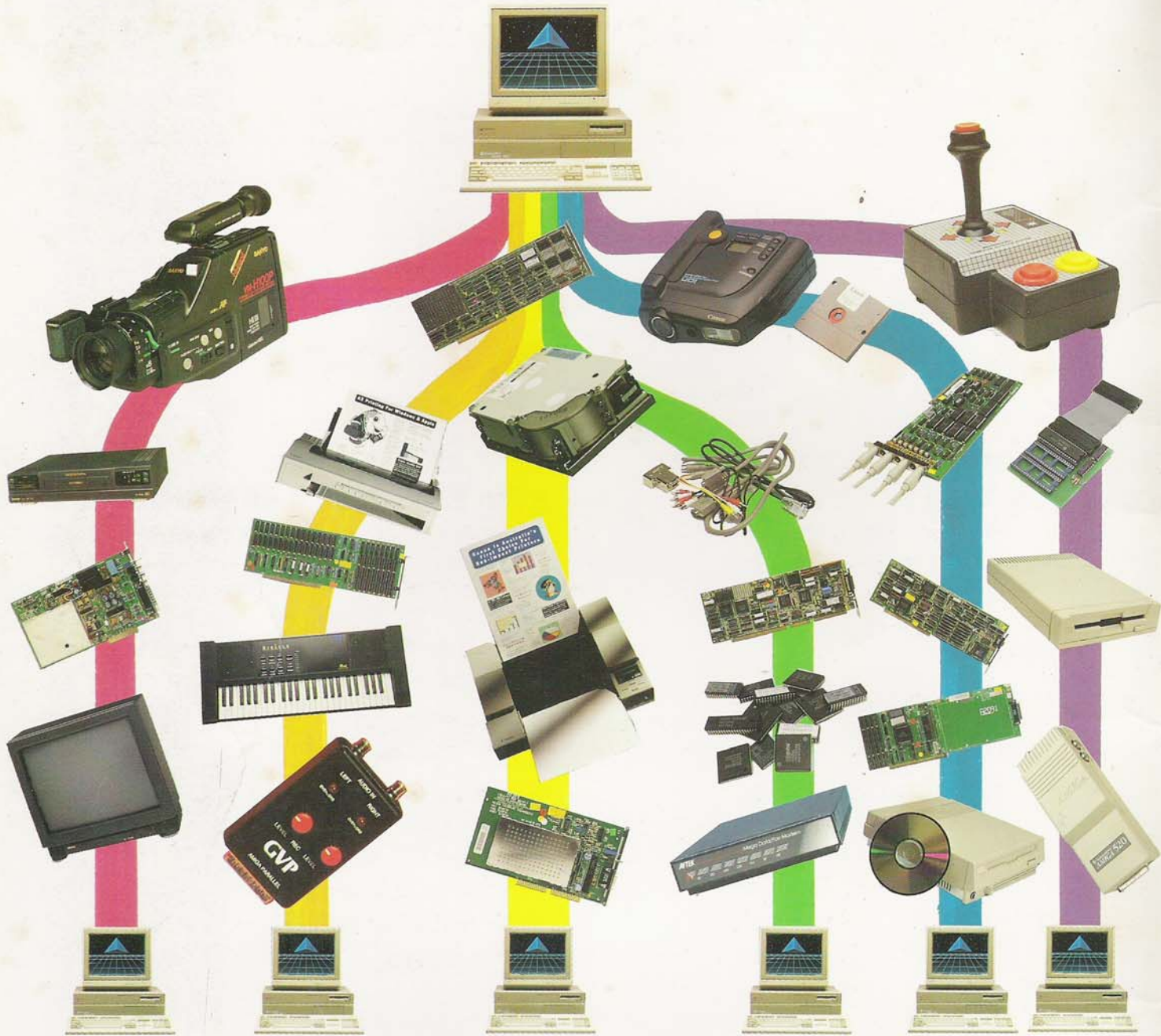


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# Preface

## Amiga Annual

### 1993



**W**elcome to our sixth *Amiga Annual*. 1993 promises to be a big year for the Amiga. With the improved graphics, speed and expandability of the new machines, plus a strong range of excellent software, the future looks good.

In this year's Annual, you won't see any repeats. It's all fresh new material.

All our regular sections have been included: The Australian Amiga Product Guide has been updated, the last two hundred Fred Fish disks are listed and Australia's Amiga User Groups and Bulletin Boards have been catalogued.

You'll find plenty of information for beginners, news on the new Amiga range, and a few juicy articles for more advanced users. We've tried to cover areas we missed out last year, and as usual, the brief was to keep everything as easy to understand as possible.

If this is the first time you've picked up the *Amiga Annual*, you may also be missing our monthly magazine, *Australian Commodore and Amiga Review*. ACAR, for short, comes out every month at the start of each month. Inside are more of the sorts of articles you're holding right now, plus news and regular columns on popular areas of Amiga computing.

So, check out your local newstand or see the subscription form on page 96, fill it out and send it back. That way you can have ACAR in your letter box every month - no hassle fighting all the other readers in the newsagents and no missed issues!

**Andrew Farrell**  
Editor

**F**irst and foremost, I'd like to thank all the Amiga users and enthusiasts out there for the overwhelming vote of confidence you've given over the past twelve months. The Amiga platform continues to evolve, and is now gaining the recognition it undoubtedly deserves.

Part of the evolution of the platform is, of course the inclusion of new features, the increases in performance and capability which come about through advances in technology. Where other platforms suffer a limitation in what they can and cannot do, the design of the Amiga ensures that as new technology becomes available, the Amiga can take advantage of it.

We are continually striving to make the Amiga the best possible computer it can be, consistent with its low price tag. We're committed to the Amiga and its ongoing success - and the comments we receive from you, our users, indicate that we are getting it right!

The other thing I'd like to thank you for is the support you give the now annual World of Commodore exhibition. Last year set all sorts of records in attendance and retail sales, and this year looks like easily beating those! We already have bookings from major suppliers from the US, Europe (in particular the UK and Germany) and, of course, Australia.

It's well worth the visit to the World of Commodore to see the very latest in hardware, software and applications for your Amiga. You'll see how the Amiga makes business and education easier. You'll see how the Amiga can solve practically any computing problem.

Most of all, you'll see experts in various fields explaining how you can get the most from your Amiga. Make it a date: World of Commodore, July 2, 3 & 4 at Hall 5, Sydney Convention and Exhibition Centre, Darling Harbour.

Finally, a word of thanks to two groups who very rarely get a mention: the Commodore Amiga user groups who have also given a great deal of support to the Amiga, and also to Commodore retailers. We all know that times have been tough, no more so than in retail. Your efforts over the past year are very much appreciated.

**Pat Byrne**  
Managing Director  
Commodore Business Machines





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# The New Amigas

by Andrew Farrell

**S**eptember 11th, World of Commodore Show, Pasadena, USA. The rumours were real. Commodore unveiled the first of the next generation Amigas. At the same time, they adopted a new policy of openness. This was the Amiga world's perestroika.

For once we were left with an idea of where the Amiga is headed. For once, the rumours circulating were based on official comment by Commodore. Instead of empty pipe dreams, we now had hard facts. Facts which add up to confidence in the Amiga as the best platform for multimedia, desktop video, home computing and creativity - now and in the future.

## What's New?

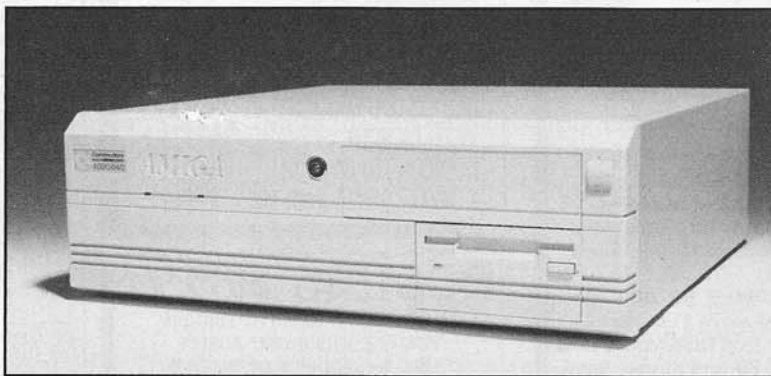
Two main features have been seriously improved on all the new models. Speed and graphics. Speed has been improved in two areas. The CPU, the engine at the heart of your computer, is now faster. And memory is addressed in bigger chunks, so information will

move around internally up to twice as fast as the Amiga 3000. In day to day use, this adds up to smoother animation, faster screen refresh and quicker software all round.

In the graphics department, Commodore have addressed three areas - resolution, colour and flicker. For a complete run down on the new modes, see the AGA display chart on these pages. You no longer need any sort of display

enhancer to fix flicker problems. All machines will work with a multisync or VGA monitor - although some care must be taken to ensure your monitor matches your intended applications.

In the colour department, all resolutions now enjoy a standard 256 colours on screen from a palette of 16.7 million. In the new HAM mode, HAM8, you can have up to 256,000 colours from a palette of 16.7 million. The results are splendid. We're talking photo-realistic, real life, sock-removing colour here.



*The Amiga 4000*

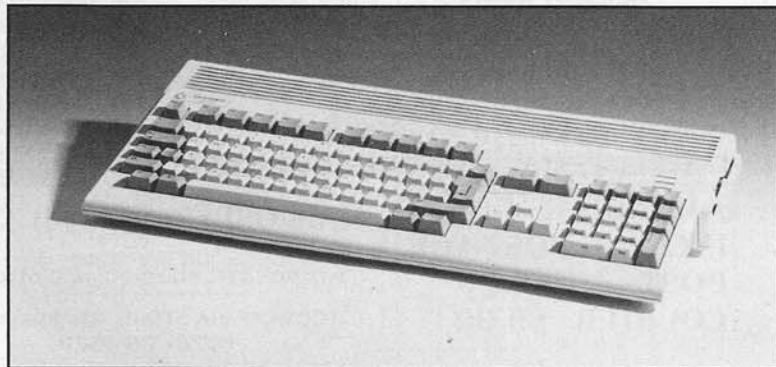
Resolutions are up, up, up - but you've got to work within the bounds of your chosen monitor. Check out the chart mentioned previously. In short, we now have display resolutions which compare well with any other platform for this sort of money. The Amiga is right up there with everyone else - add in the extra colours and we blow them away.

## Implications

Entertainment software will improve dramatically. I predict thousands of Amiga 500 owners will upgrade to the A1200, making this new machine the de facto standard. Games developed for 386 and 486 SVGA PCs will now port very happily to the Amiga without loss of colour or speed. They may even decide to take advantage of the extra power on hand.

Productivity titles will be easier to use, faster, support more display modes and have access to more file types,

*The Amiga 1200*





thanks to Workbench 3.0. Desktop publishing and word processing programs are already shipping which support the new AGA features.

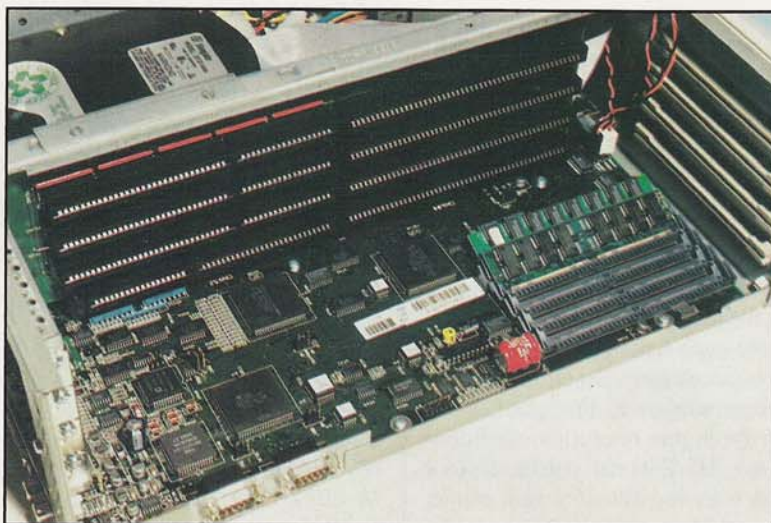
Paint programs supporting these new display modes and colours include *Deluxe Paint AGA* and *Brilliance*, both of which are very professional programs. Animation software like *Imagine 3.0* and *Real 3D 2.0* will also support AGA displays.

The big winners will be presentation programs like *Scala*. An AGA should ship early '93. Imagine the flips, wipes and transitions they currently offer in full AGA glory. Amiga will continue to race ahead as the ultimate multimedia platform, adding more awards to the growing list already won in the area.

Desktop Video will be another big winner. Exactly how easy the AGA modes will fit in with new video processing and effects hardware remains to be seen.

## Expandability

Expansion is a big issue. With the new models, you can build more speed, memory or storage into even the most basic models. Commodore have got it right this time. Using the new PCMCIA slot, an industry standard credit card sized slot for adding peripherals or memory, there's no telling what they'll



*The A4000's expansion slot - adding memory is now simple*

come up with. A full 386SX emulator on one of these tiny cards has already been announced.

Internally, the A4000 offers lots of room. The A1200 is a different story - although expandable, room is tight. An in between model would seem logical, but nothing definite has been announced.

## The Future

Given that we are now in the depths of the worst world recession for some time, it would be wrong to expect any

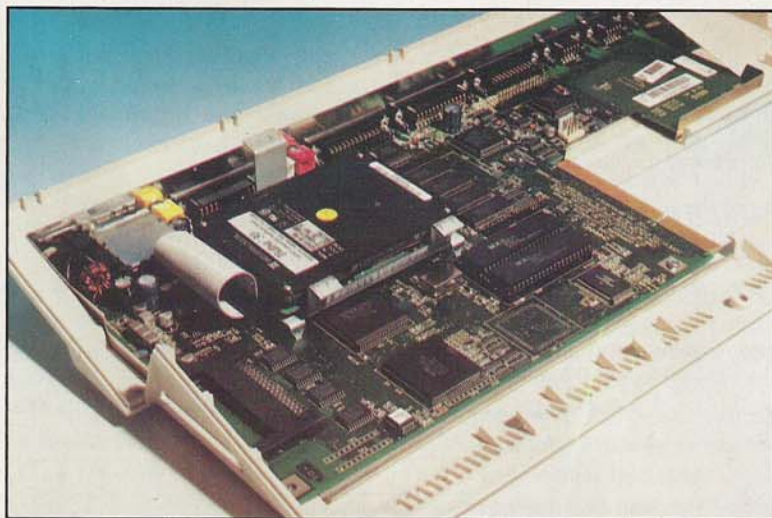
spectacular growth of the Amiga market. Many existing owners will upgrade. However, winning new converts will be tough. Most people adopt very conservative thinking in such a climate and that includes jumping computer platforms.

So, '93 will see moderate consumption of the new models. Software will arrive at a steady pace, probably sooner than expected because most developers have already learned from the previous chip set upgrade to follow Commodore's guidelines.

Commodore will launch a small number of upgrades to the new machines as the year trundles by. The DSP add on will create the most interest, but more mundane things will no doubt sell in far greater quantities. Look for another new model around the middle of the year and major announcements regarding hardware development late '93. Thanks to Europe, the Amiga and Commodore will survive the next year. Thanks to Commodore USA, the big developers have the confidence to stick with it. There's a lot of credibility being mustered over there right now. Management are saying and doing all the right things.

I'm confident, notwithstanding war, natural disaster or divine intervention, that Commodore and the Amiga will have a better year than most.

*Compact design with two expansion options - internal or PCMCIA card*





# AGA and HAM8 Colour and Class

by Marc Rifkin

Advanced Graphics Architecture or AGA for short. These chips have basically the same screen modes as the current Enhanced Chip Set (ECS), but are no longer subject to the sacrifices of colour for higher resolution. Additionally, the AGA's total palette is 16.8 million colours - the 16 levels of red, green and blue are now 256; and the maximum number of colours is 256 (eight bitplanes) per screen.

But perhaps the best addition is the next generation of one of the Amiga's most innovative features - HAM.

The HAM screen mode on current Amigas allows a screen to display the

full limit of the palette (4,096 colours) through a method where each pixel's colour is derived from the pixel to the left of it. Of the three colour values (red, green and blue), two are held constant while one can be changed to a new value - hence the name Hold and Modify (HAM). There are also 16 normal register colours that can be used without this limitation. The result most of us are familiar with is a picture with relatively smooth shading and a variety of colour, but subject to blurring or fringing on fine details. HAM is also restricted to low resolution (320 by 200 or 320 by 400).

The new AGA HAM, called HAM8, is a whole new ballgame. Now there are 16 million possible colours, higher resolutions and less fringing (there are 64 normal colours). The result is nothing short of breathtaking and makes you wonder "Who needs 24 bit anyway!"

The quality should be more than adequate for non-professional work. As for video, HAM8, which uses eight bitplanes, should be nearly indistinguishable from "24 bit" graphics. Animations will be photo-realistic and digitized images will appear like still video. And digitized video will look almost identical to real video - the AGA chips are three to four times faster than their predecessors (in addition to the super-fast 68040 CPU of the A4000).

HAM8 can be considered a new kind of "data compression" akin to the JPEG standard as it sacrifices details of certain portions of the image for some other benefit such as a wider range of



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colour or better compression. Compared to a regular 24 bit file, which would be over 1 megabyte in 736 by 482 resolution, HAM8 files are usually one third the size. With its incredible range of colour, high resolution and less fringing than the old HAM, HAM8 promises to be a tremendous advancement in Amiga graphics and animation, allowing better 3D rendering, more realistic digitizing and smaller files than 24 bit would require. Of course all of this is useless unless there is software to support it.

Be relieved to know that most of the major developers are rushing to make their programs AGA compatible. Many will only offer the 256 color mode at first and HAM8 will come soon after. You can create your own HAM8 images from 24 bit (digitized or rendered) by using *Art Department* version 2.1 or higher and you can make animations with *BuildAnim* (on Fred Fish disk 428), viewable with *View 3.21* (which should be available on BBSs).

#### NEW AGA Display modes

NB: All existing modes have access to full AGA palette.

DBLNTSC Monitor		
Screen Display Mode	Screen Resolution	Color Palette
High Res	640 x 200	256/16 million
High Res Laced	640 x 800	256/16 million
High Res Laced No Flicker	640 x 400	256/16 million
Low Res	320 x 200	256/16 million
Low Res Laced	320 x 800	256/16 million
Low Res Laced No Flicker	320 x 400	256/16 million
DBLPAL Monitor		
High Res	640 x 256	256/16 million
High Res Laced	640 x 1024	256/16 million
High Res No Flicker	640 x 512	256/16 million
Low Res	320 x 256	256/16 million
Low Res Laced	320 x 1024	256/16 million
Low Res No Flicker	320 x 512	256/16 million

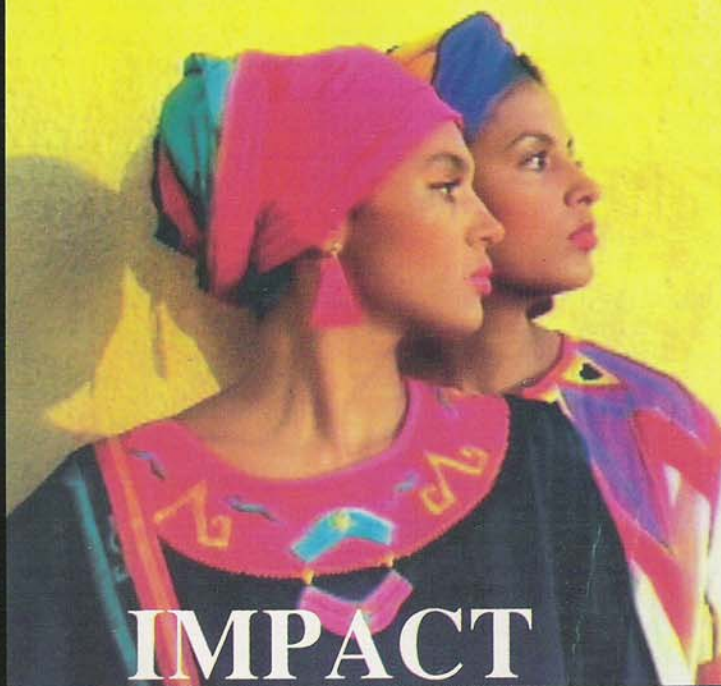
#### Software shipping with AGA support now:

ProWrite 3.3, Final Copy II, ImageMaster 9.21.

#### Software supporting AGA in the near future:

Deluxe Paint AGA, Scala MM 2.0, Professional Page 4.0, PageStream HamLab Plus, Brilliance.

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# How to make money with your Amiga

***Owen James shows several ways to make a buck out of your Amiga, without investing a lot of money.***

If you're like me, you'll have several thousand dollars worth of Amiga sitting on a desk. Just pause for a moment to think about how much you've spent on your little investment - the computer, monitor, external drive, printer, modem, RAM and finally the software. Thousands, right? Wouldn't it be great if you could use your Amiga to actually **MAKE** money, without doing anything illegal? Find out how as we go recession busting, with a little help from the Amiga ...

## **Typing**

This is probably the most common of all business activities. If you can touch type at a reasonable speed, then you have a skill people would pay you for. You could be very surprised at the response a small notice in the classifieds of your local newspaper will bring. There's always someone wanting their important school assessments, business correspondence and resumes typed.

All you need is a decent word processor with spell check facility (based on a British dictionary, not American), and a good quality printer (24-pin, Bubble Jet or Laser).

If you're not a confident touch-typist, just be wary if you're considering charging by the hour. While your rates may be competitive with the office services company down the road, it's no good for your clients if you take four times as long as they would and then charge accordingly.

## **Desktop Publishing**

One step up from word processing is Desktop Publishing (DTP). Contrary to popular belief, it does take some design skills to go far with DTP, but providing you're aware of your limits you can start making money in a relatively short space of time.

Ask friends, colleagues and business associates if they need any stationery items produced. Letterheads, business cards and fax cover sheets are all very simple to produce on the Amiga. As you build up experience you'll find that you're able to produce flyers, brochures, newsletters and more.

As long as you're aware of your limitations, and only take on work you know you are capable of, you can't really get into too much trouble. Get hold of a book named *Looking Good In Print*, by Roger C. Parker (Ventana Press). This is a great book to help get you started in designing.

To get started you'll need an Amiga with at least three megs of RAM and a package such as *Professional Page*. If you're planning on getting serious about DTP, you'll also need a large hard drive, multiscan monitor with Display Enhancer card, scanner, and a healthy library of fonts and clip art.

You can do without a laser printer for a while, as there are many service bureaus around that can print Postscript files for you. If taking files to a bureau, you'll probably need to use a utility such as Cross-Dos to transfer files to an

MS-DOS disk. If you're only taking on small jobs, it can be relatively inexpensive to equip your Amiga for DTP.

## **Desktop Video**

Another area you might like to consider putting your Amiga to work in is Desktop Video (DTV).

You don't need to be a genius at 3D modelling and animation to make money out of DTV. With two good quality VCRs and a genlock you can advertise in your local paper as being able to add titles to those embarrassing home videos every family has lying around.

With a video camera and a \$200 conversion unit, you can even convert 8 and 16mm films, slides and photographs to video for people and add titles and a soundtrack along the way.

If your fees are reasonable, you can easily appeal to the home video market. Don't expect to make a fortune, but it has the potential to be a profitable little sideline.

To break into Desktop Video you'll need at least a genlock, *Deluxe Paint* (or another program you can use for titling), and two good quality VCRs. A Vivitar universal video converter is also very handy if you plan to convert from slides or film. You don't have to be a video expert either. Just some basic knowledge is all that is required.

If you're competent at computer animation, you may be able to go further than just simple titling, providing you're prepared to invest in more equipment.



The more talent you have, the further you can go.

## Writing

Why not do what I'm doing right now? There are always magazines and journals, both here and overseas, looking for freelance writers to contribute articles on how to get the most out of your Amiga. Jot down a few ideas on paper before you begin and then start writing. Make sure that what you want to say is clear and easy to read, and most importantly makes sense.

Also ensure that you fulfill the magazine's requirements. Most magazines like articles to be of a certain length, and some will only accept material that hasn't been printed elsewhere, so keep this in mind when you're ready to submit. Details of exact requirements can usually be obtained by contacting the magazine's editorial offices.

## Consultant

There are always Amiga users in need of help. I've had to deal with everything from "My printer's not working" to "I've unpacked it. Now what?". If you know how to use your Amiga, and can clearly express yourself to others, then this might be what you're looking for. Place an advertisement in the classifieds of your local newspaper offering help and advice to Amiga users. If you can, try to avoid 'unchargable' work.

By this I mean "over the phone" solutions to problems. Tell whoever is calling that you can help them, that your charge rate is this, and that you'll be there that afternoon. Then you go there, solve their problem, and walk out with cheque in hand. It's not worth your while to be receiving phone call after phone call, interrupting other work you may have, and not be able to charge for the help you give. Make sure that you look and sound professional, especially if you're charging average consultancy fees.

cially if you're charging average consultancy fees.

## Bureau Services

If you have the equipment, you may as well be making full use out of it. Remember that not everyone has a scanner, digitizer, laser printer, and other such niceties. If you're lucky enough to own one or more of these, then you can start making them available for a fee. Offer to laser print Amiga files, or scan photographs and drawings for people without a scanner.

Most bureaus charge upwards of \$1.50 for laser printing, and upwards of \$5.00 for simple scanning, so you can see that your equipment can certainly earn its keep. Again, make sure you're confident with your equipment. No one will pay \$10.00 for a shoddy scan or \$5.00 for a poorly recorded sound sample.

## Making It Pay

Finally, some hints for 'making it pay'. Firstly, bill clients promptly. You'll find that individuals will be the most likely to pay on time, and companies will do whatever is in their power to delay payment. In these cases the best thing is constant telephone calls, faxes and letters. Refuse to do any more work for that particular company until

## Hot Tip

Create a mission for your business and avoid getting caught up in areas unrelated to your objective. Think in terms of "making and keeping clients by providing extraordinary service" rather than "making a profit by cutting costs" and you'll do better. Good clients should bring in good business and profit follows. - Andrew Farrell.

they settle any debts.

Secondly, invest in a good quality accounting package. If you're service industry orientated, get one that can cope with labour instead of widgets. *EasyLedgers Service Edition* is one I can recommend. Though it is rather pricey, it can save you in the long run.

Most importantly - let people know that you exist. Annoy friends, family and colleagues until they can stand it no more. Classified advertisements in your local newspaper are inexpensive to place, and business cards usually only cost around \$60 to print 500.

Don't be afraid to charge money. Remember, you're providing a service and have as much right to make a profit as a doctor or accountant has. When you start off, accurately analyse how much you're making, and if it's not enough then increase your fees. While you may put a few people off by increasing your charges, remember the reason you started - to make money. Always keep that as your goal.

Obviously these ideas aren't going to make you a millionaire. However, if you could use a little extra money each week, or would just like your computer equipment to start paying for itself, try putting a few of these suggestions to work. You could be in for a pleasant surprise.

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# Amigas in the Office

**Owen James explains how the Amiga performs equally as well in the office as it does in the halls of creativity.**

**W**hen people speak of the Amiga, they usually talk of its stunning graphics, sound and multimedia capabilities. Rarely will you hear the Amiga spoken of as a serious business administration tool. Fair enough. No one could say that the Amiga will ever be likely to take the corporate business world by storm, but that doesn't mean it can't be put to work in an office environment.

For the past couple of years I have been using the Amiga in my own small business. Even though I may not be handling thousands of dollars' worth of accounts each day, I still need a system that will take care of clients' accounts and other day-to-day business efficiently.

After using a Macintosh-based system in another business for a while, I was sure that the Amiga was up to the task. In this article we're going to look at what you'll need to get your Amiga-based office up and running, and throw in a little advice along the way.

## What You Need

To start off with you'll need a system with the ability to grow as you need it to. While an Amiga 500 is a common starting point, I'd recommend an Amiga 2000 or 3000 - if you can afford it. I started on an A500 but it wasn't long before my desk started feeling cramped by external peripherals and my power supply defi-

nately felt the pressure. When it came time to purchase a hard drive I decided I'd step up to an A2000. Save yourself some money from the start and begin with the right system.

While you're at it you may as well throw in a hard drive of not less than 52 megs and about two or three megs of RAM, one of which should be Chip RAM. Yes, you can get by with less memory, but when you need to pull figures from your spreadsheet and accounting software, and collate them in your word processor, you'll see the difference a couple of extra megs can make to multitasking.

## Don't Forget a Good Printer

The next hardware purchase should be a good quality printer. Your old nine-

pin dot matrix might have been fine to produce the odd letter to friends, but when you're going to be spitting out several letters, faxes, invoices and quotes per day you're going to need something fast and reliable.

The quality of output should also be a consideration. If you advertise yourself as a computer specialist, and it's obvious that your documents are being printed on a clunky old printer that should have been retired years ago, then clients will have doubts about exactly how much of a computing professional you really are. If you don't project a professional image then chances are that you won't be treated as a professional.

One type of printer you might like to consider is the Canon BJ10EX Bubble Jet. This printer is fast and produces quality that is comparable to more expensive laser printers. You must be aware, however, that replacing the ink cartridge can get rather expensive, especially if you do a lot of printing. Take this into consideration before you make your purchase.

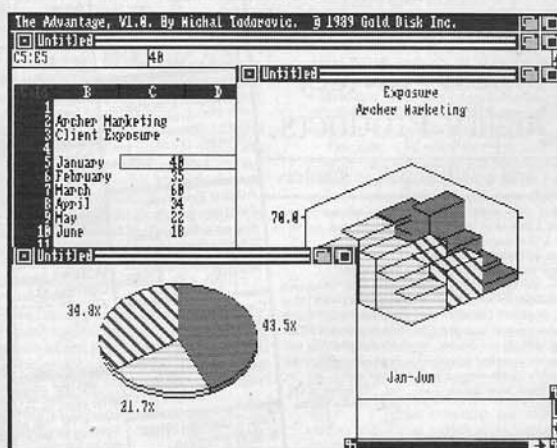
## The Fax of Life

No office should be without a fax machine. They can greatly speed up correspondence between you and your clients or suppliers. If your office revolves around the computer, make sure you get a fax machine that will talk to it. A lot of people don't realise that a fax machine with a computer interface can save you real money.

I know from working in another office the wastage from printing a document for the sole purpose of faxing it. Often the original would be discarded straight after the transmission. A fax machine with the right interface will save you that step. You can print a document to the machine's memory and fax directly from that - no need for a hard copy.

Also, many fax machines can double as computer printers, thus saving you another expensive hardware outlay. True, you may not be able to print on anything

*The Advantage spreadsheet*









# Which Spreadsheet?

## Maxiplan or ProCalc

**Don Sutton compares the two leading Amiga spreadsheet programs - ideal for toying with figures, organising budgets or running a cashbook. A spreadsheet can also be used for filing information.**

### Overview - Maxiplan

*Maxiplan* is one of the oldest spreadsheets available for the Amiga. It was sold originally through Oxix up to version 1.9 and then briefly through B.E.S.T. of "BEST Accounting" fame under version 2.0 and 3.0.

It used to sell in two versions - *Maxiplan Plus* and *Maxiplan 500*. The latter version without the macros was designed to run on an unexpanded Amiga. *Maxiplan* recently came under the wing of The Disc Company. The latest version, *Maxiplan IV*, comes on two disks, the program on disk one and examples, preview fonts and a new file requester on disk two.

*Maxiplan* has always had a good file requester. The latest is fast and will list all available devices.

The manual has been re-written. However it is not ring bound as with the one released by Oxix.

Owners of unexpanded Amigas will need to upgrade to a minimum of 1Meg to run the program. No mention is made of whether or not there is support for a math co-processor. I have found from previous versions of *Maxiplan* that it runs more reliably with an accelerator and plenty of extra RAM, however not everyone can afford this (some of the bugs cause a crash irrespective).

The latest version has a number of features that are new to *Maxiplan* such as "Dataview" mode which allows quick entry of data by arranging the fields so that they are in rows, similar to a true database entry form (this feature

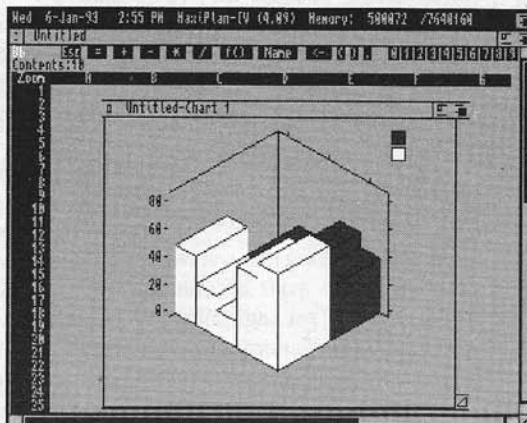
was introduced in *Maxiplan III* and was available directly from Intuitive Technologies).

Another feature is story book or "WordCharts" which allow a presentation slideshow. There is also ARexx support.

### Overview - Procalc

Gold Disk started with *Advantage*, a good spreadsheet prone to a few strange bugs. With the benefit of hindsight some of these problems may be to do with low hardware specification computers. I have found both *Maxiplan* and *Advantage* more stable now that I have an accelerated Amiga with 4 Mbs of 32bit memory via a GVP Combo board. This does not let the authors of the software off the hook, however, as if the program is advertised to run on a standard Amiga it should run on a standard Amiga without problems. Recently Gold Disk have released another spreadsheet program for the serious user.

#### Maxiplan



*Professional Calc* was written by Michal Todrovic, who also wrote *Advantage*. This program features Amiga font support, an icon bar for single mouse button click on commonly used functions, 68881/2 floating point coprocessor support and more. Users familiar with spreadsheet programs for the MS-DOS world will see a similarity with Borland's *Quatro Pro*, Microsoft *Excel* and Lotus 123 for Windows.

*ProCalc* comes on three disks, though there is a fourth disk in the packet with a Hyperbook demo of other Gold Disk products. Disk 1 contains the program and an installation program for hard drive users. Disk 2 contains utilities, fonts for use with postscript laser printers. The third disk contains example spreadsheets and templates for business, home and law use.

It took two attempts to install the program on the hard drive even though I read the readme file on the disk. I failed to realise that if you want *ProCalc* to be installed in a directory off the root directory, do not create this directory first as you will end up with a directory structure as follows DH1:Procalc/Procalc/ instead of DH1:Procalc/.

The correct procedure is, hold down the shift key, click once on the HDInstall icon and double click the drive icon and not a drawer icon as stated in the readme file unless you want *ProCalc* installed in a drawer say DH1:Spreadsheets/ProCalc/.

### The Need For Memory

Both spreadsheets require a minimum of 1Mb to run - the more the better. In reality, with 4 Mb of RAM the maximum work sheet you can have is 512 columns x 120 rows for *ProCalc* and 159 rows for *Maxiplan*. *Maxiplan* handled this condition better than *ProCalc*, bringing up a requester with the message "Memory Near Full Stop".

*ProCalc* allows partial menu display and would not respond. I might mention that this is an extremely unlikely situation where such a large worksheet would be

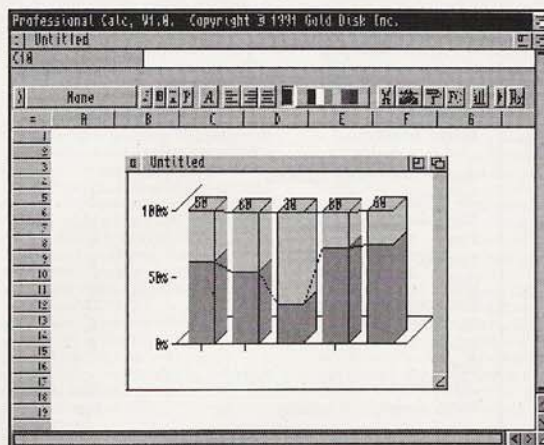


created though the problem could arise when multitasking some other large program.

You could have a situation where you had just a few columns and lots of rows but to go to a few thousand rows would tend to make the worksheet hard to manage. A situation requiring this would be better managed by using a database program.

## Aesthetics

No contest with looks, *ProCalc* wins hands down. *Maxiplan* under Workbench 1.3 looks okay, but not under Workbench 2.0 mainly due to colour problems. Gadgets look indistinct. *ProCalc* fully supports WB 2.0 sculpted icons and 3D look. The depth of the rows is dependant on the font size used so you can have say a large title or headings for columns and a smaller size for the data - an excellent feature.



*Procalc*

A simple to follow control panel at the top of the worksheet puts *ProCalc* way in front. Some of the buttons include Style, Text Style, Font, Alignment, Colour, Editing, Graph, Macro, Rexx. The ARexx language is supplied with the WB2.x or higher and is available separately for around \$70.

*Maxiplan* also has gadgets in the con-

trol area above the worksheet and these have not changed since version 1.9, the oldest version I have. *Maxiplan*'s gadgets are as follows: ESC, =, +, -, \*, /, F(), Name, <-, (, ), ., 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. I only use two of these often - the Function and Paste Name gadgets. All the rest are of dubious value as it is quicker to use the keyboard than to move the mouse around over the gadgets. Gadgets that do something useful would be preferred.

## Documentation & Online Help

The manual for *Maxiplan* has been re-written, at least from the version supplied with *Maxiplan 1.9* sold by Oxix, but is now soft covered and will not lay open on the desk. Improvements have been made particularly for the new user. A little more could be done however in the area of indexing. *Maxiplan* has not

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online help available from the last option from each pull down menu. Pressing the help key will produce a list of function key actions.

*ProCalc* on the other hand has a much better manual than *Maxiplan*, with copious illustrations and ring binding. *ProCalc* has no online help and is not as good as its next of kin *Advantage* in this respect, which at least produced a list of function key options when the help key was pressed.

## Operation

Using *Maxiplan* is quite fast but *ProCalc* is faster courtesy of the minimum recalc feature and floating point processor support. Minimum recalc is a feature whereby only those cells affected by a change are recalculated instead of every cell. With the introduction of Workbench 2.0 a change was made to the front/back gadgets. The left one was changed to a "zoom" gadget, or "shrink/expand" if you like, where if you click on it the window will shrink to a minimum size and if clicked again the window will assume its normal size. This feature is supported by *ProCalc* but not *Maxiplan*.

The front/back gadget is partially supported by *Maxiplan*. Where more than one worksheet is loaded you can swap between worksheets but not between other programs unless you select Open Workbench from the Project menu. If you have no worksheets open in *Maxiplan* and open the Workbench, do something in another program and return to *Maxiplan*, you will not get control of *Maxiplan* and will have a frozen menu bar. This problem has been with *Maxiplan* over several versions, though you can sometimes regain control by closing all other applications. *Maxiplan* allows a maximum of three worksheets open while *ProCalc* allows any number according to available memory.

When entering large amounts of data you often need to know what column or row you're entering the data in. For example, you may have labels in the first two or three rows of the worksheet. Once you get to the bottom of the screen these titles will scroll off the top.

# Amiga Spreadsheet Program Chart

Program Name Version Tested	VIP Professional 1.	Superplan 1.2	Maxiplan 4.1	Advantage 1.1	ProCalc 1.
<b>Number of functions available</b>					
Database	7.	5.	7.	7.	7.
Date/Calendar	5.	13.	6	7.	7.
Time	None	6.	2.	8.	9.
Financial	5.	5.	5	13.	14.
Logic	5.	10.	10.	16.	16.
Mathematical	17.	21.	19.	31.	31.
Statistical	7.	5.	6.	6.	6.
Special	5.	9.	10.	36.	22.
String	17.				
User Defined	No	No	No	Yes	Yes
Text & Numeric in IF formulas	No	Yes	No	Yes see note 1	Yes
<b>Program Control</b>					
Autos	No	Yes	No		
Macro Recording	No	Yes	Yes	Yes	Yes
Macro Language	Yes 30 commands	Yes 42 Cds	Yes 106 cds	Rec. keystrokes	Rec. keystrokes
Arexx Support	No	Yes	Yes	Yes	Yes
Autostart Macro	Yes	Yes	Yes	Yes	Yes
<b>Mouse Support</b>					
Window (Front/Back)	Limited	Yes	Yes	Yes	Yes
Active cell Movement	No	Yes	Yes	Yes	Yes
Pull Down Menus	No	Yes	Yes	Yes	Yes
<b>Worksheet Specs</b>					
Multiple Worksheets	Open No	No	Yes 3	Yes until mem full	Yes until mem full
Maximum Possible Size (Col/Row)	256*8192	1024*2048	32000*32000	32000*32000	65000*65000
Minimum Memory Requirement	512k	1meg	1meg	1meg see note 2	1meg
Protected Cell/Ranges	Yes	Yes	Yes	No	No
Password Protection	No	Yes (Area)	Yes	No	Yes
<b>Cell Addressing</b>					
Absolute	Yes	Yes toggled On/Off	Yes	Yes	Yes
Semi-Absolute	Yes	No	Yes	No	Yes
Named Ranges	Yes	Yes	Yes	Yes	Yes
<b>Text Formatting</b>					
Justification (Lft,Rt,Ctr)	Yes	Yes	Yes	Yes	Yes
Style (Bld,Udl,Ital)	Normal Only	Normal Only	Yes (Bld,Udl,Ital)	Yes (B,U,I)	Yes (B,U,I)
Colour change	No	Yes	Yes	Yes	Yes
Cell Notes	No	No	Yes	Yes	Yes
Speech	No	No	Yes	Yes	Yes

Most spreadsheet programs acknowledge this and provide a feature whereby several rows and/or columns can be frozen so as to remain at the left in the case of columns and at the top in the case of rows and both if so desired. *Maxiplan* allows eight rows and five columns to be frozen. I have found that you must not select more than this or you will have no alternative other than to reboot the computer. Too bad if you haven't saved recently.

*Procalc* is practically useless in this respect as the limit is the first row and or column. You may get away satisfactorily with only one column but only one row? One would need to increase the width of the columns temporarily in order to enter a meaningful title to

the column while entering your data.

*Maxiplan* now supports more shortcut key commands. It would appear that the keys chosen were produced by an enigma machine - some examples: Page Right = Control S; Page Left = Control A; Page Down = Control F; Page Up = Control D. Surely they could have used say Control U for page up or Control and up arrow. Five demerits to *Maxiplan* for non-intuitive shortcut keys.

While on the subject of keys, *Procalc* supports the IBM AT keyboard features for the numeric keypad.

*ProCalc* lets you create and name styles. The left gadget on the command line or as I prefer to call it, icon bar applies a style to the worksheet. The



# Amiga Spreadsheet Program Chart

Program Name	VIP Professional	Superplan	Maxiplan	Advantage	ProCalc
Online Help	Yes F1 Key	Yes F1/Help Key	Yes Menu/Help Key	Yes (Limited)	No
<b>File Type Support (Load &amp; Save)</b>					
Lotus 1-2-3	Yes (L,S)	Yes (L,S)	Yes (L,S)	Yes (L,S)	Yes (L,S)
Ashton Tate dBase	No	Yes (L,S)	No	Yes	Yes
Comma Separated Values	No	Yes (L,S)	Yes	Yes	Yes
Data Interchange Format	No	Yes (L,S)	No	No	No
Maxiplan	No	No	Yes	Yes (L)	Yes (L,S)
Superplan	No	Yes (L,S)	No	No	No
Advantage	No	No	No	Yes	Yes
Logistix	No	Yes (L,S)	No	No	No
Text	Yes (L,S)	Yes (L,S)	Yes (L,S)	No	No
Range of Worksheet	Yes (L,S)	Yes (L,S)	Yes (L,S)	No	No
IFF for Graphs	No	No	Yes	Yes	Yes
CAD Format (Aegis Draw)	No	No	No	Yes	Yes
Create Icons For Saved Files	No	No	Yes	Yes	Yes
<b>Printer Support</b>					
Amiga Preferences	Yes	Yes	Yes	Yes	Yes
Inbuilt Custom Drivers	No	Yes	No	No	No
Plotters	No	Yes	No	No	No
Print Type Change	Via printer codes	Yes size & style	Yes	No	Yes
Sideways Option	No	Yes	No	Yes	Yes
Print To Disk	Yes	Yes	Yes	Yes	Yes
<b>Graphs</b>					
Bar	Yes	Yes	Yes	Yes	Yes
Stacked Bar	Yes	Yes	Yes	Yes	Yes
Line	Yes	Yes	Yes	Yes	Yes
Pie	Yes	Yes	Yes	Yes	Yes
High Low	No	Yes	Yes	Yes	Yes
Scatter	No	Yes	No	Yes	Yes
Step	No	Yes	Yes	Yes	Yes
Gantt	No	Yes	Yes	No	No
3D Option	No	No	Yes	Yes	Yes

## Notes

(1) Will not update result if subject of argument changed.  
Formula has to be placed in edit mode and return pressed.

2) Program is split up into 2 parts for 512k users.

L = Load    Lft = Left    Ctr = Centre    Udl = Underline  
S = Save    Rt = Right    Bld = Bold    Ital = Italics

current style is displayed in the gadget to the right of the apply style gadget.

*Maxiplan* supports the standard system font but allows colour, and style attributes such as italic or bold, but not different point sizes. The paste font option brings up a requester where you may choose a font but when you click on the continue button it inserts the name of the font you have selected into the cell, overwriting the existing contents.

Both programs allow notes to be attached to cells. In the case of *Maxiplan* the current cell indicator will adopt an italic style when the cursor is placed on a cell containing a cell note. Pressing the help key will display the note. The note may also be spoken. *ProCalc* can not speak cell notes but they are dis-

played on the status line when the cursor is on the cell containing the note.

The Say option in *ProCalc* will speak the cell contents back to you when you complete an entry. *ProCalc* allows a hotlink to an ASCII text editor for extended cell notes and works best with *Transwrite*, another Gold Disk product.

## Functions and Statements

*ProCalc* supports many *Lotus* 123 functions and where there is no equivalent *ProCalc* function, a *Lotus* function may be used. An example is where you may want a solid line under a title. With both *Maxiplan* and *ProCalc* you must key in the number of dashes or under-

scores to fill the width of the column. If you later widen the column you then have to edit this cell and add more characters in order to fill the cell.

The *Lotus* feature to automatically fill the cell even if the column width is altered is the back slash followed by the desired fill character eg. "\-". This feature will in fact fill every empty cell to the right in *ProCalc* but not in *Lotus*. Patterns can also be achieved like the following "\-\*". This will fill the cell -\*\_\*\_\*\_\* and any empty cell to the right. To stop a line simply enter a space in the desired ending cell.

Because *ProCalc* also supports Amiga fonts, a font can be created with the desired symbol, character or shape and applied to the worksheet. See the font supplied called "Zapfdingbats". Another trick I found that also works in *Maxiplan* is to enter a space in one cell and apply the underline style to it. You may also have a heavier weighted line by selecting the bold attribute.

*ProCalc* and *Maxiplan* are similar in that the function which can be applied to a cell can be selected from a requester similar to a file requester. *ProCalc* has some 124 functions plus some which are unique to *Lotus* while *Maxiplan* has 66. The *Lotus* functions are not available from the function requester, you have to know these.

*Maxiplan's* and *ProCalc's* functions use the ":" colon to separate cell references and the "=" to precede a formula like the MS-DOS and Apple Mac versions of Microsoft *Excel*. *ProCalc* also has the feature whereby you can define your own functions, save them and have them appear in the function requester. Some of *ProCalc's* functions are of dubious value, ie. the time function with an accuracy of seconds when nothing more accurate than minutes can be displayed.

Both programs support links to specific cells in other worksheets via a link function. You can, for example, have a worksheet set up for each month of the year and a summary worksheet which takes the total/s out of each month's worksheet. *Maxiplan* does not support a text argument in "IF" functions so a cell with the following statement will



not work though there is mention in the documentation that this feature is to be implemented in a future version. =IF(A2=B2,"Yes","No").

The preceding statement works fine with *ProCalc*. Absolute and semi-relative cell addressing is supported in *ProCalc* ie. "=SUM(\$A1:B\$5) or =SUM(\$A\$1:\$B\$5)". In the first example column A is absolute while row 1 of column A is relative while the second example has absolute addressing where both columns and rows are absolute. Overall *ProCalc* is stronger and more flexible in the Function department.

### Macros

*Maxiplan* has a full featured macro language as well as ARExx support. Macros are written on a macrosheet and saved. They can be executed on any worksheet if so desired. There is the ability to record a macro that can be edited to include such things as deci-

sion making steps later. Macro capability is *Maxiplan's* forte. *ProCalc* supports recording of key strokes and has an ARExx port but has no built in macro language for decision making.

### File Handling

Both *ProCalc* and *Maxiplan* have the ability to save in their native mode or save and retrieve *Lotus 123* format. *ProCalc* will retrieve *Maxiplan* files. *ProCalc* can save as CSV (comma separated values) from the Edit/External menu option as well as paste to the clipboard while *Maxiplan* has this feature from the Data menu.

### Graphing

Both programs are well endowed with charting features. Types include bar, stacked bar, pie, line, scatter as well as 3D versions of most of them. The graphs can be annotated using any of the standard Amiga fonts. Both pro-

grams make it easy to create charts, however new users to *Maxiplan* will take a while to come to grips with placing text on the graph.

After selecting the font and entering the text it appears that nothing has happened until you click the left mouse button. Text will then appear to the right of the pointer position. Though this allows a lot of flexibility it will require some trial and error to place the text exactly where you want it.

*Maxiplan* has the ability to change data in a worksheet by shifting points on a graph (bar and line only and does not work on formulas unless rewritten, pg75 of manual).

Graphs can be saved with a worksheet as named graphs with *Maxiplan* or as an active graph with *ProCalc*. Other forms in which *ProCalc* graphs can be saved are IFF, CAD or *ProDraw* (a structured drawing program from Gold Disk).

*ProCalc* has a curious quirk in that if you select the number of ticks on an

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axis to something that would be logical for say metric, ie. 4 ticks making it a count of 5 divisions between 0 and 5 giving a step of 1, the on screen ticks will not be evenly spaced, likewise the printout.

## Printing

*Maxiplan* allows the running of preferences to adjust printer settings directly from a menu option, though most of the things you would need to change are available from the Printer or Project menu anyhow. Sideways or Landscape printing is not supported.

*ProCalc* supports Sideways, ASCII, Graphic or PostScript output to printers as well as the print to disk that *Maxiplan* also supports. *ProCalc*'s print to disk is found in the Edit menu option "External". Two of *ProCalc*'s output options, sideways and graphic dump (both are graphic) are slow as the computer needs to build each line to be printed by determining which pins are to be fired.

*Maxiplan* has an option to print grid lines which in effect double spaces the worksheet cells. Being an ASCII output and not graphic it is faster than *ProCalc*'s graphic dump (the only way you can print grids with *ProCalc*). *Maxiplan*'s grid printing feature would be okay if you could turn on or off cells that were to have a grid surrounding them. There is no need to have a grid around titles for example and in fact if the title spills over into an adjacent cell to the right it will be truncated if print grid is selected.

## Conclusion

*Maxiplan*, long the leader in Amiga spreadsheet programs, has made some improvements but not really addressed some underlying fundamental bugs ie. the tendency to Guru (crash). For a program that has been around so long not to do something about these problems is in my opinion unforgivable.

Some of the good features are the

"Dataview" mode for quick entry of information into a spreadsheet database and the strong built in macro language though the latter would not get much use for home. The word chart feature would be handy for presentations if you had nothing better.

*ProCalc* on the other hand for such a newcomer is very good. I did not have any problems with it at all in normal use. In fact if I had a wish list for *ProCalc*, it would be for Gold Disk to address the freeze titles limitation as the number one item. With the increasing popularity of Workbench 2.0 and its supplied AReXX programming language, the macro limitation can be overcome.

My choice for the winner is *ProCalc* for the ultimate Amiga spreadsheet program. I have no hesitation in recommending *ProCalc* to anyone.

For price and availability of these two programs, and for details of other spreadsheets, see the product guide in this Annual. ☐



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# Harlequin

## Top End 24-Bit Paint Box

by Dennis W Nicholson

In February of 1991 the Amiga Centre of Scotland released the first version of their 32-bit framebuffer board, the Harlequin. 32 bit?! I was still attempting to find out what 24 bit technology was all about - just what was another eight bits from the Harlequin board going to give me? Should I just wait for the 64 bit board to impress everybody?

### Hardware

The board is designed for the Zorro II bus, and is suitable for both A2000 and A3000 computers. The output is totally independent from standard Amiga video signals and supports the following resolutions in both interlace and non-interlace modes - interlace required for video applications:

910 x 576 (PAL)  
832 x 576 (PAL)  
740 x 576 (PAL)  
910 x 486 (NTSC)  
832 x 486 (NTSC)  
740 x 486 (NTSC)

The external connections on the rear of the card are two 15 pin sockets, one for the video output, and the other for the genlock interface.

Once installed there are two methods of accessing the Harlequin card, an EXEC style shared library and a device driver. The device driver is built upon the functions of the library so that a single method of controlling card access can be provided. While only the library is required in the Libs: directory to access its functions, it is necessary to have both the library installed and the device driver in DEVS: when device driver commands are used.

A version of the library is supplied

that will work without a Harlequin card fitted to simulate the actual operations available with the card. The software simulates a double buffered PAL card with alpha channels fitted. When used with a standard A2000 the library will operate at approximately the same speed as an A2000 and Harlequin configuration. When used with an accelerated A2000 or an A3000 the library will run faster than normal because the simulated writes will be to 32 bit memory at full processor speed.

### 32 Bit Design

The Harlequin graphics card supports up to 32 bit pixels, with 24 bits displayed. The pixels are broken down into eight bits each of red, green, blue and alpha. The bits are numbered from 0 to 31 with the lowest bit (bit 0) being the least significant bit of the alpha

channel and the highest bit (bit 31) being the most significant bit of the red channel. An Amiga display uses the pixel value to index into a 12 bit colour palette, but on the Harlequin card this is not necessary as the 24 bits of pixel data are used as the colour information, giving in excess of 16 million colours available, 16,777,216 to be exact.

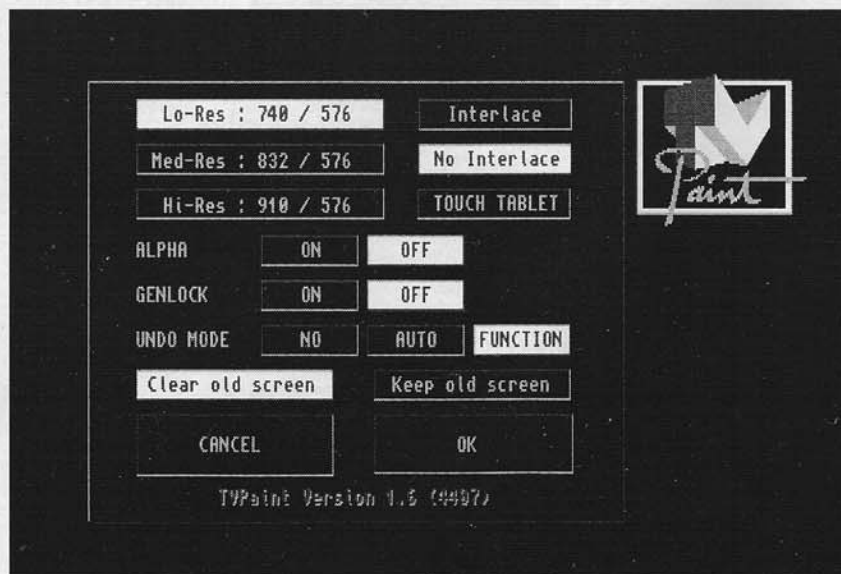
Remember, though, that you won't get 16.8 million colours on the screen at once - no commonly available monitors have the necessary 4000 x 4000 + resolution. Many prospective 24 bit board purchasers mistakenly think that they are going to have all 16+ million pixels popping out of their screens.

Using the Harlequin's maximum screen resolution of 910 x 576 as an example you will only be able to show 524,160 colours at once, because 910 pixels multiplied by 576 pixels equals 524,160 pixels, and you can only have one colour per pixel.

### The Extra Bits

While 24 bits per pixel is the standard requirement for 16 million colour display, an extra eight bits per pixel is available (as an option) from the Harlequin. This gives the user an additional 'channel' (known as the ALPHA Channel), which can be utilized for a variety

*TV Paint was written with the Harlequin in mind*





of graphics related functions above and beyond the 24 bit display.

One such example would be to use the eight bit alpha channel to create 256 levels for linear keying, thus providing the capability of full anti-aliasing with external video sources. The 256 levels begin at 0 (zero) which is full external video signal and end at 255, which is the complete Harlequin signal. Another possibility would be to allocate a single bit plane of the alpha Channel as a digital key output for cutting between Harlequin graphics and other assorted video sources, thereby allowing smooth transitions to be made between graphic objects generated by the card and external video.

Certain facilities are designed into the board based on the alpha channel output. The lowest bit (0) is connected to the video connector as a single bit mask output. This enables simple video overlays, where the external video is either on or off. The card supports ei-

ther one or two buffers, with or without alpha channels fitted. If a double buffer card has alpha memory, there will be alpha on both buffers.

### Double-Buffering

What is double-buffering? Basically one image can be loaded while another is currently being displayed. There is a choice of four card configurations as follows;

Harlequin	Memory	Double-Buffered	Alpha Channel
1500	1.5Mb	NO	NO
2000	2 Mb	NO	YES
3000	3 Mb	YES	NO
4000	4 Mb	YES	YES

### The Software - TV Paint

TV Paint was specifically written with the Harlequin in mind by Techsoft Images in France (a version of TV Paint is also available for GVP's IV 24 board,

but it only operates in 12 bit mode). At just over 500k in size, it is not the most 'power-packed' paint program for the Amiga, but it certainly has enough 'bells and whistles' to keep even the professional market observing with great interest.

For the TV Paint software to operate correctly a hardware dongle has to be placed in the external floppy drive port of the computer. If an external drive is already plugged in, the dongle can be attached to the drive's through port. Earlier versions of the software had a parallel port dongle, so pity the people with printers, which is about 99.9% of Amiga users!

Running the program without the dongle connected will still allow the software to operate, but the 'Save' options will be disabled and a large 'DEMO' will be placed over the screen. Under the circumstances, the annoyance caused by the dongle is defensible; at around \$2,000 TV Paint is not a

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cheap acquisition for people used to normal Amiga prices, but it is extremely well priced for the high end market where paint packages begin at \$8,000!

The dongle seems a fair trade, especially since pirates will have challenge ahead if attempting to crack it - it's encased in solid resin, much the same as the *Digi-View* hardware.

The current version of *TV Paint* is v1.7 and requires at least eight megabytes to run with a Harlequin onboard. Thankfully *TV Paint* multitasks perfectly, so there is no need to lock out the rest of the system, though you may not have a lot of memory left!

## On-Screen

The colour palette, available from the main screen requester, shows only 256 colours (0 to 255), but any colour can be altered via the RGB, CMY (Cyan, Magenta, Yellow) or HLS (Hue, Lightness, Saturation) slider bars at the top of the requester. To avoid fiddling with sliders to produce a specific colour, a Mixer function allows you to mix your own colours.

By clicking on the Mixer button at the bottom of the requester a white rectangular working area replaces the two coloured circles (the Spectrum). Select any colour (except white) from the 256 available and paint with it in the mixing area. The longer you remain painting in the same place, the more intense the colour becomes.

Select a second colour and you can then mix it with the first to create many different variations. To avoid defining a new working palette every time you wish to change, there are four working palettes kept in memory.

## Tools

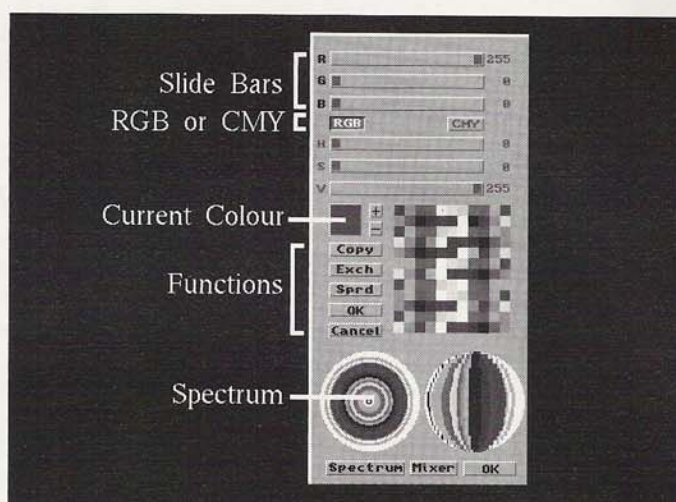
All the usual drawing tools are available, as well as a spline curve tool. Image altering functions include Colour, Smear/Grain, Smooth/Blur, Shade, Transparency modes, Brush Wrapping, Colourising and Airbrushing. It is even possible to smear areas while utilizing the airbrush. Other options include DENSITY, allowing you to change the

colour density in a filled shape. The requester is not unlike the one found in Aegis/Oxxi's *SpectraColor* software, though this one has an impressive 24 bit smoothing option.

A powerful stencil function is also available, called masking in *TV Paint*. Colours can be added or subtracted to mask certain image areas. If memory permits *TV Paint* also has a spare screen available. Thankfully the program's Undo function has been greatly improved over earlier versions of the software. File formats recognised are ILBM (IFF and HAM), TGA, RENDITION (Caligari), JPEG, and DEEP (*TV Paint*'s proprietary format, which has the advantage of loading and saving more quickly than the others).

A 'Big Edit' option allows you to work with images up to 2048 x 1366 on the 740 x 576 screen. Clicking the 'Read Partial' button reduces the large image to fit the smaller screen. A specific area can then be selected with a white screen-size rectangle. The chosen area is placed into the 740 x 576 screen dimensions where it can be worked with. Once satisfied with the result you return to the 'Big Edit' menu and select the 'Write Partial' option, this saves the area to its original location in the large image.

Supplied with *TV Paint* are several other software utilities. TVDisplay is an image display utility which allows you to DISPLAY and CONVERT files



*TV Paint's colour palette*

on the Amiga or the Harlequin board. It only works with a Harlequin attached. Slide32 is a slide show program which executes commands written in a text file, and is executed from the CLI. TVDisplay contains 28 screen transition effects.

## Upgrades

The Amiga Centre of Scotland are now offering the Harlequin PLUS card. New features include up to six buffers, as opposed to double buffering, plus full screen overlay, colour cycling and four new modes - 24 bit look-up, 15 bit true colour, which allows real-time page flipping, eight bit true colour and eight bit pseudo colour.

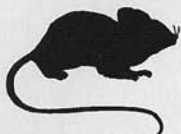
Existing owners of the Harlequin can upgrade to the latest version. The basic 1500 Harlequin board retails for \$3,770.00, whilst the 'mother' board (4000), will set you back \$4,621.00. So the 4000 plus a copy of *TV Paint* will empty the bank balance by around \$6,500.00. Add the cost of a new A3000 and you will surpass the five figure mark. For the home DTV user I would recommend investing the money elsewhere, but professional videophiles will be getting an incredibly powerful, and cheap, package!

For more information contact TV Graphics on (03) 690 0680.

Dennis Nicholson is the editor of the *Amiga Graphics-Palette Disk-zine*. □



# Which Mouse?



*Any Amiga owner who doesn't use the machine as a souped-up Nintendo makes frequent use of the mouse - but which is best? Daniel Rutter tested a whole swag.*

**W**hen I bought my Amiga, the mouse had buttons operated by tiny membranes held in place with sticky tape; thankfully more recent versions are microswitched, but even these switches are not bulletproof and the standard "pregnant" mouse still has corners in all the wrong places.

Its rollers seem specially designed to clean your desk by collecting every particle of gunge they can find. The more recent "hunchback" Commodore mouse manages the extraordinary feat of completely redesigning the device while being just as awkward - once again, it's got corners at the back, a major no-no.

Thus, for anybody who uses the Workbench or a mouse-intensive application like *Deluxe Paint*, a new mouse is essential. But what to buy? There are dozens of different models out there, and since you can only really evaluate a mouse after using it for a while - they all feel weird for the first couple of days - shop-hopping is not the answer.

This article will help you out, by comparing every mouse we could lay our hands on, 11 in all, not to mention a couple of track balls for good measure. Things to bear in mind when selecting a mouse include:

## Mechanism

Mouses can use either an opto-mechanical or optical tracking method.

Opto-mechanical is the norm, and cheaper; a rubberised ball rolls on your desk, turning rollers which in turn rotate notched wheels to interrupt light passing from pairs of infrared light emitting diodes to complementary receivers.

Advantages of this system are that it costs less and doesn't need

any fancy accessories, though a mouse mat is recommended and sometimes supplied.

On the downside, the moving parts can and do wear out or gum up.

Optical mice dispense with all the mechanical bits and shine infrared light directly onto a special mouse mat covered all over with tiny dots; the reflected light is picked up by a more sophisticated receiver and hence there are no moving parts. In their favour is the fact that they need never be cleaned and are hence more reliable; minuses include higher price and the necessity for a special mat, which can be susceptible to damage.

Some people dislike optical mice because they don't feel they're as accurate as opto-mechanical - an optical apparently has more trouble keeping to a perfect line for painting programs or desktop publishing and tends to hop back and forth a pixel.

Try it for yourself; if you're not a great artist I doubt it'll make a large difference. I know I wouldn't trade the lightness and maintenance-free operation of my own optical for a mechanical clunker.

*Alfa-Data Optical Mouse - three buttons*



## Number of Buttons

Amiga mice may have two or three buttons.

Three button mice have few advantages, but if you use some of the high powered Computer Aided Design packages which implement this function, they're helpful. There are also miscellaneous utilities which recognise the third button - Chris Hames' excellent ShareWare directory utility DirWork, and the little program MMBShift, which uses the middle button to allow easy extended selection on Workbench 1.x, for example. I use Khalid Aldoseri's Switcher program to select screens on my machine, slaved to the middle button.

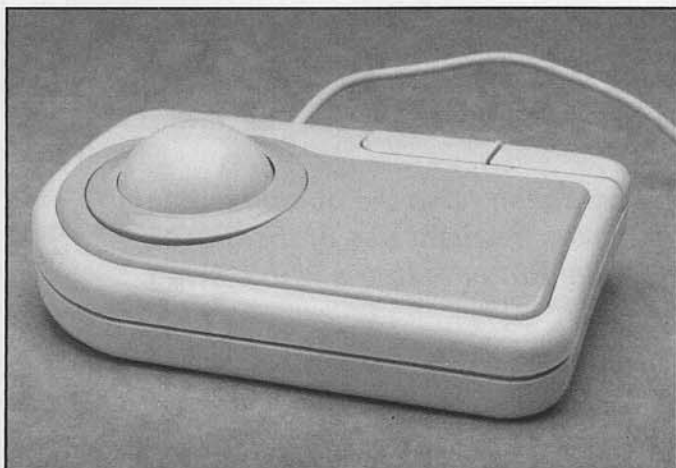
## Switches

There are several types and sizes of switches which can be used for the button actuators. They range from horrible unreliable membrane switches, as seen in the bad old Commodore job, through cheap models as used in the newer Commodore mouses, right up to the quiet and virtually indestructible microswitches which are now appearing in newer mouses. Basically, if your switches go "pock" they're crummy; if they go "tic" they're good.

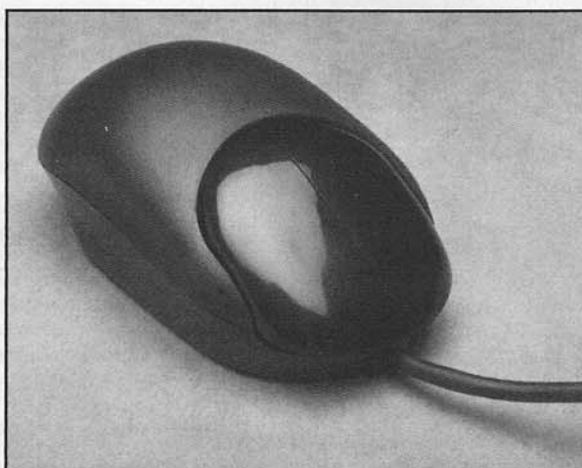
## Extras

Some mice include mats and mouse houses as well as the rodent itself; it's worth factoring in the separate price of these when making your decision. The two cordless devices even include *Deluxe Paint II*; if you don't have a paint program this old favourite will suit you well, but it's fortunate that it's possible to buy the devices without software.





*Alfa Data TKB-MT Trackball*



*Beetle Mouse*

## Value

The mice in this review vary widely in price and quality, with the two not necessarily being directly related. If your money's short or you don't use the machine that often, then you can make do with a cheapie (and paying more doesn't necessarily get you a better product), but if you're willing to pay for the best for something you're going to have to use all the time, the premium is worth it.

The mice and trackballs reviewed are, in alphabetical order:

Name	Price
Alfa Data Optical Mouse	\$89
Alfa Data Trackball	\$125
Beetle Mouse	\$38
Genius Triple Mouse	\$89
Golden Image Cordless Trackball	\$145
Golden Image Cordless Mouse	\$99
Golden Image Optical Mouse	\$99
Golden Image Opto-Mechanical Mouse	\$45
Golden Image Brush Mouse	\$39
Jin Mouse	\$35
Pan Mouse	\$39
RocTec RM300C	\$35
Swift Mouse	\$49

## Alfa Data

The Alfa Data Optical Mouse is switchable for use with Amiga or Atari ST. It comes with a plastic backed mouse mat which looks pretty tough - but the surface is still just plastic coated cardboard and hence susceptible to damage. If you do manage to completely stuff up an optical mouse mat, try to find one of

the metal ones supplied with expensive Sun workstations.

The Alfa Data is a three button design with ridges on the two outer buttons' inner edges for easy positioning. The shape is more heavily curved than usual, but immediately comfortable.

Like all optical mice, it's inherently lighter than a mouse with mechanical workings inside, and you'll never need to clean it. The cord is amply long at 1.5m, so overall at \$89 you get a quality product that looks like it'll last very well.

Personally I prefer the slimmer and longer design of my Golden Image optical (see below) but there really isn't much in it, and the Alfa Data also comes with a mouse house which can be stuck to the side of your monitor - a device not so useful with Amigas where the mouse is used virtually all the time.

## Alfa Data Trackball

The Alfa Data TKB-MT Trackball is also switchable from Amiga to ST, and uses a small (for a trackball, anyway) ball mounted on the left side, with the two microswitched buttons on the front right edge. The ball is held in place with a locking ring which is easily removed for cleaning.

As is the case with all trackballs, some re-education is needed to get the hang of the Alfa Data, which can be used two handed - with the left hand on the ball and the right working the buttons - or one handed, although left handed people might have trouble with this second option since their little finger would have to work the

ball. The trackball tracks nice and fast (again, like all trackballs) so mouse accelerators should be disabled, but it's still very accurate once you're used to it.

It's got a 1.7m cord which is more than adequate, and on the whole the Alfa Data would make a great mouse substitute on a small desk, for users of portable Amigas (when they arrive ...) and even in a public information booth (suitably glued to a desk and with its locking ring likewise immobilised). In fact, the only thing I could find wrong with it was somehow the styrofoam packaging had had a chunk taken out of the side - not what most people would call a major fault.

## Beetle Mouse

The Beetle Mouse is, let's face it, cute. Gorgeous, even. On the side of the box it's described as "A Friendly and Joyful Companion in the Gray Computer Journey," which may be taking it too far.

The Beetle is rounded, with two large buttons which deliberately evoke the image of insect eyes. It's also surprisingly comfortable, very light and accurate, and the microswitched buttons are as light as those on a MicroSoft Mouse - it started out as an IBM peripheral before the Amiga version was released. It's not a mouse for the heavy-handed, but it really feels very good indeed to me. My only reservation concerns the Beetle's durability; the ball is unusually small and very light and looks like it might wear, and the whole thing looks a bit flimsy.

But you shouldn't give these niggles too much thought, because the Beetle is a



lovely change from the endless ranks of utterly tedious beige squares, it's got a nice long cord, it comes with a mousemat and you can get it in all sorts of amazing colours - the one I chose for review is the staid blue and black, but you can get red, yellow, blue, black and white in any combination and there's even a Stars and Stripes version on sale in the US! At \$38 it'd be decent value even if it looked boring; for a statement of individuality I think it's a small price to pay.

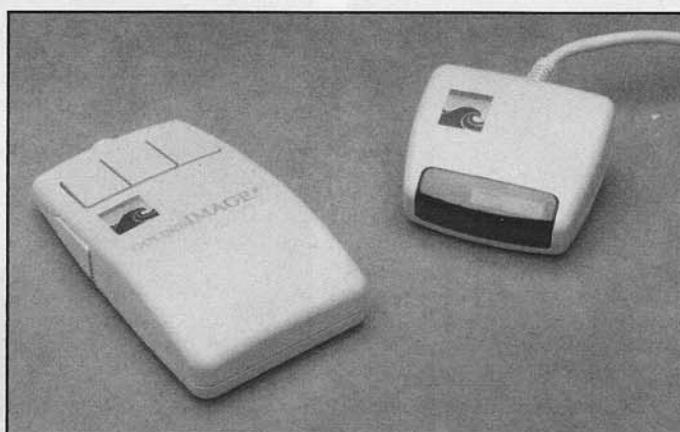
### Genius Triple Mouse

The Genius Triple Mouse is unusual in that you can use it on Amiga, Atari ST or Amstrad PC-1640, with the help of an adaptor cable and an underside switch. This might be handy if you're running on a shoestring and have an Amiga and an Amstrad (does ANYONE have an ST?), but this seems a long shot to me. Apart from that, the Genius is a workmanlike design, solid, microswitched, accurate, two buttons, good cord length, mouse house and mat included, for \$89. The mat is reversible; the other side is a self-healing cutting pad.

The Genius' design isn't the most comfortable, with a sloped back that means the back of your hand drags on the mat, but it's perfectly usable and Genius products tend to hang together for a long time. Good if you're after a solid, reliable, boring mouse.

### Golden Image Cordless Trackball

The Golden Image Cordless Trackball has an unusual design. Its ball is much larger than that of the Alfa Data and looks not unlike a cue ball. And this large ball seems to be free to fall out of the trackball assembly when-



*Golden Image Cordless Mouse with transmitter*

ever you tilt it; in fact internal ridges make it perfectly stable but the lack of any retaining hardware is a little strange. It does make the trackball very easy to clean, as all you have to do is turn it upside down and the ball drops out.

The trackball takes four AA size batteries (supplied but flat), which will last ages if the switch on the underside is set to LO, for close range work (1.5m and less, or normal mouse range). The HI setting (up to seven metres range) would only be used if you're on the far side of the room from the computer. However, if these batteries run out at an inconvenient time, you'd better have spares laid on or it could get annoying - I'd recommend rechargeables.

The trackball communicates via infra-red light with a small receiver on a wire which connects to the mouse port and

draws its power from the computer. A LED on the receiver lets you know movements are being registered.

The trackball has three curved buttons arranged around the ball, but they don't behave quite as you'd expect - the middle button is used to lock either of the others for dragging or menu selection, a technique which takes a little while to learn but becomes quite easy with practice. What looks like a

fourth button at the bottom of the casing is just a moulding containing the much smaller on button; the trackball automatically turns off after ten minutes of inactivity.

This trackball feels a bit weird but not actively uncomfortable; the only real problem is a slight "rubber band" effect when you move it - it feels like someone's greased the screen when you weren't looking. This effect doesn't significantly change the pointer's behaviour, but it does feel odd when you first start using the cordless trackball. Given the \$145 asking price, I'd go for this option if you're using your Amiga somewhere weird - it's good for controlling presentations from a distance, for example.

The trackball reviewed came bundled with *Deluxe Paint II* (an attempt to run out old stocks of a still perfectly good paint program); I believe another version is available without, at a slightly lower price.

### Golden Image Cordless Mouse

The Golden Image Cordless Mouse uses the same receiver as the trackball, and runs on two AAA batteries (again supplied and this time they worked!). Unfortunately, all the extra hardware needed for the

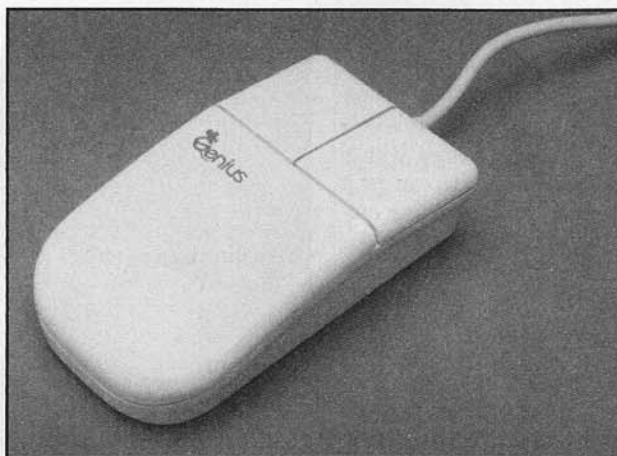


*Golden Image Cordless Trackball with transmitter*





Jin Mouse



Genius Triple Mouse

infra-red transmitter makes the mouse, despite its slim outline, rather heavy.

The opto-mechanical design tracks well on many surfaces, but unfortunately the rubber-band effect is more pronounced with the mouse than the trackball, perhaps because the mouse tracks slower than the ball; it's quite noticeable and while the effect still isn't a major problem it is annoying for people used to immediate response. This is NOT a mouse to play Indy 500 with!

Given the mouse's \$99 price tag, it's one for the specialists, even though it, too, comes with *DPaint II*. Again, I think a version without *DPaint* is available for those who already have it, or more probably a later version.

## Golden Image Optical Mouse

The Golden Image Optical mouse (yes, yet another from this stable) is the one I use at home. Like all optical mice, it never needs cleaning. It is also very light (85 grams) and its slim outline makes a refreshing change from the pregnant bulges of many others. The optical mouse's three buttons are all the same size and all microswitched; I've never had a glitch.

The only downers are its rather short cord (under 90cm) and easily damaged mousemat, although a little care will keep even that alive for many years; mine's okay after more than 18 months. When this unit first came out for \$100 the price was a sensation, and I've seen it for \$79 these days, which is excellent value - if you're after a mouse with more class than most, give it a go.

## Golden Image Opto-Mechanical Mouse

The Golden Image Opto-Mechanical mouse is a two-button design which is a little tall for my preference, but is otherwise comfortable, well weighted and switchable between Amiga and ST.

From above it looks very like the optical model. It comes with a small mouse mat, and the buttons are microswitched but a bit heavy. Tracking speed is average, as is cord length. In fact, I'm having a very hard time finding anything interesting to say about this mouse; it's well built and should last, \$45.

## Golden Image Brush Mouse

A wise man once said that every man has a great idea which will not work; the designers at Golden Image bear this out with their Brush.

On the face of it, the Brush seems a great idea - it's easier to use a pen-like gadget than a brick-like one, so let's build the miniaturised workings of a mouse into the end of a chunky sort of thigh-shaped pen case and make a fortune. Unfortunately, this design is, to be kind, flawed.

Pens, you may have noticed, taper towards the bottom. Thus can you change the angle at which you use them as your hand sweeps across the page. The Brush mouse has a sort of plinth at the bottom - it has to, to accommodate the tiny ball and roller assembly. When you use the Brush, therefore, you have to perpetually keep your hand in exactly the same position - it feels like you're pointing with a

middle-sized paintbrush. The Brush's price, \$39, doesn't help, either. A turkey.

## Jin Mouse

The Jin Mouse is made by the Jin Tech Electronics Corporation, the Taiwanese company which holds the Golden Image trademark. At \$35 it's the tied cheapest mouse in this survey, and it's about what you'd expect for that price.

Large, reasonably comfortable, with cheap sounding switches and metal rollers, which pick up dirt more than the plastic ones in, say, the Beetle. I am, however, informed that the Jin doesn't break down much and so it'd make a great low cost replacement for the standard Commodore model for anyone who uses the Amiga basically as a hobby and doesn't spend enough time at the machine to justify major expenditure.

The cord's a good length, tracking speed is average and it looks like it'd take the knocks without complaint; it ain't arty, but it's functional.

## Pan Mouse

At less than \$40, the Pan Mouse is a cheapie. Its packaging features a mangled piece of poetry on the side (*A detecting mind never rests, it's not unlike a finely-tuned musical instruments (sic): It demands attention, practice.*) which points to yet another product originating from the Mystic East, but it's not bad. Its brass rollers collect gunge as you watch and the design isn't going to win any awards, but it's solid, it's microswitched and for the money it's top value.

Oddly, the right button is oversized;

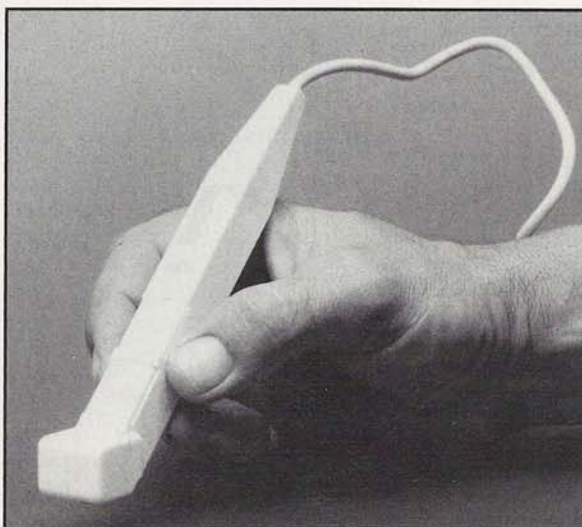


this could have something to do with the identical casing on a C64 variant of the mouse, which sells for only \$29. The Pan also has a switch for Amiga/ST selection and the 1.3m cord is at least adequate, so for the hobby computer this one's pretty good.

### **RocTec RM300C**

The RocTec RM300C mouse is used at the ACAR editorial office; two have given sterling service for some time and are showing definite signs of wear. Considering that these mice have been used eight or more hours a day, five or more days a week for maybe three years now, this is not a bad track record and indicates an excellent lifespan in home use.

The RM300C's left button is oversized and indented, and the microswitches are obviously pretty tough; the opto-mechanical machinery needs cleaning about as often as you'd expect and the cord's a decent length. The mouse tracks accu-



*Golden Image Brush Mouse*

ately, doesn't misbehave if it's used on a surface not perfectly flat and takes knocks very well. The RocTec mouse is good value at \$35, a good choice.

### **Swiftly**

The Swiftly opto-mechanical mouse

rounds out this survey. At \$49 it's the most expensive of the cheap ones (if that makes any sense), and for your money you get an Amiga/ST switchable three button design, the cheapest of the three button mouses, with an enlarged left button. Tracking is good, the unusually heavy ball gives it a satisfying inertia, and the design is more than adequately comfortable. It's a little wide but you'd get used to that, and I think with a big brand on it this mouse could sell for \$70; it's another staid yet functional design which looks like it'd stand regular use. Another good buy.

### **Thank You**

Thanks to Kaotic Concepts for the Pan and Swiftly mouse - they also sell the C64 variant of the Pan. Pactronics supplied the Genius Triple Mouse, and everything else was very kindly supplied by Rob at Amitech. □



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# Faster Games? Switch to NTSC

by Daniel Rutter

**How would you like to be able to play all those American games, the ones with the black band at the bottom of the screen, so that they filled the whole monitor? And ran faster, to boot? Interested? Read on!**

If your Amiga has a one megabyte Agnus chip, it is not at all hard to rig a simple switch which will allow you, on booting, to select either PAL or NTSC mode. If you flick the switch while the machine is running, nothing will crash, but whichever position it's in when you hit the boot keys will determine the video mode.

This is not the silly pseudo-NTSC mode your Amiga will boot into occasionally on its own, where the last inch or so of the screen is visible but inaccessible. The top bit of the screen is stretched, and refreshes 60 times a second instead of the PAL 50 times. There are fewer lines, so the screen refreshes more often. And since the screen runs faster, so do your games. In fact, you get on average more acceleration than you'd obtain from a \$95 16MHz clock accelerator, for less than \$5!

## What's Involved?

Yeah, I hear you say, but this is going to involve bad stuff like soldering irons and bits of wire and drilling holes in my Amiga, right?

Well, yes. You will probably need to solder. You will definitely need to drill a hole somewhere (I put mine above the Escape key - if you put it there make sure it clears the keyboard surround). But - and I must stress this but - it really is not very hard at all. If you've any electrical experience at all, and reasonably steady hands, it's a positive doddle. And any

friendly technician would certainly do it for you for a reasonable fee.

That said, though, I must point out that if in the course of attempting to do this you turn your Amiga, yourself or any number of beloved pets and relatives into smoking cinders, it's your problem. My instructions are correct to the best of my knowledge. Your implementation of them is your department, and if you mess it up I take no responsibility. If asked nicely, though, I have been known to provide a shoulder to cry on.

## Which Machine?

The two versions of this modification I'll detail are both for Amiga 500s. These

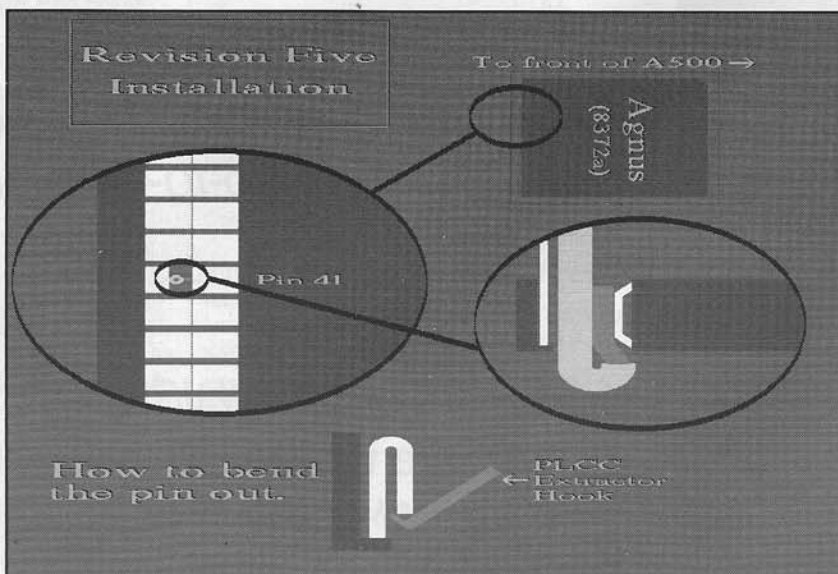
are good machines for beginners to work on because it is impossible to kill yourself - there are no mains voltages anywhere inside the 500 case. The 2000 and 3000 have an internal power supply and it is hence possible, if you really try, to turn yourself into a Crispy Critter.

If you have an A2000, you'll just have to hunt about on the motherboard for the bits I'll talk about; if you have a 3000 you're on your own. If you have a 1000 I think you'd need a Phoenix board or equivalent to pull the mod off - you certainly couldn't do it with the ancient oblong Agnus chip!

To determine which version of the mod is for you, you need to know which version motherboard you have. Older machines have the Revision Five board, newer ones will have Revision Sixes. To identify which sort you have, open your Amiga by removing the hex screws which hold the case together. This can be done with an appropriate Torx driver; a two millimetre Allen key will work too.

Turn the machine right side up again and pop off the top case. If this is the first time you've opened the machine, it may need a little persuasion - if it needs a lot, check that you've got all the screws out!

Now that the case is off, unplug the keyboard cable, noting which way round the plug was. Now remove the other hex screws which hold on the RF shield (the tin casing which reduces the amount of radio interference your Amiga emits).





Take off the toothed guard over the left side expansion bus first, then unbend the tags which hold down the shield and lift it off. Before going near anything on the board, touch the disk drive housing to ground yourself. Static is not really a major problem - you needn't invest in an anti-static wrist strap unless you have a burning urge to spend some extra dollars - but it doesn't hurt to be safe.

Now, if you look just in front of the disk drive to the right, you'll see a little square of text including the Revision number of your board.

I thought I'd describe that way because it shows you how to take the 500 to bits. If you just want a quick check, look at the expansion port under the plastic cover on the left-hand side of the computer. The Rev. 5 machine has a very fat strip (double width) at the back of the connector; the Rev. 6a board has two normal-width strips instead.

## Installation

I'll deal with the older board, the Revision Five, first. This board is harder to work on in general, but for this particular modification there is the minor bonus that you may get away without having to solder anything; at least, nothing on the board.

First, you'll need to know if you have the one meg Agnus - if you don't, you're wasting your time. Find the Agnus - it's located to the right of the Kickstart chip, which is itself to the right of the big 68000 as shown in the diagram. On the Revision Five board the text on the Agnus will be upside down. The one meg Agnus will have 8372a written on the top somewhere. The old, 512K, Agnus will have 8371, probably in bigger type.

If you have the old one, which is almost certain with the old motherboard, and want to use this mod, buy an 8372a

from somewhere like Ami-tech, where it'll cost you no more than \$60. To remove the old Agnus from its socket, you will need a PLCC (square) integrated circuit extractor tool. You can get these as part of a kit of IC tools such as Dick Smith sells for \$40 (and a very useful kit it is too), or buy one separately from an electronics supply house for maybe \$5.

Hook the two little bent bits of the extractor under the two recessed corners of the chip and squeeze the tool's sides, and the chip will pop out. Put it aside, preferably in an antistatic container - matchboxes are great - and place the new Agnus on top of the socket, with the text upside down as before. This means the beveled corner of the chip, which is what you're supposed to use to align it, will be to the bottom right. Press firmly on top, and it will pop into place with a sickeningly loud click. Don't worry, it's tough.

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Now connect the monitor and power supply, and turn the machine on. You should get an NTSC boot screen. It's easy to identify because the scan lines are much more prominent and the Kickstart hand (or animation, for WB2) is taller.

What you now have is a standard American Amiga, which can't run in PAL mode. If you want a quick break, play a couple of games and enjoy the speed. Now I'll tell you how to get PAL happening when you want it to.

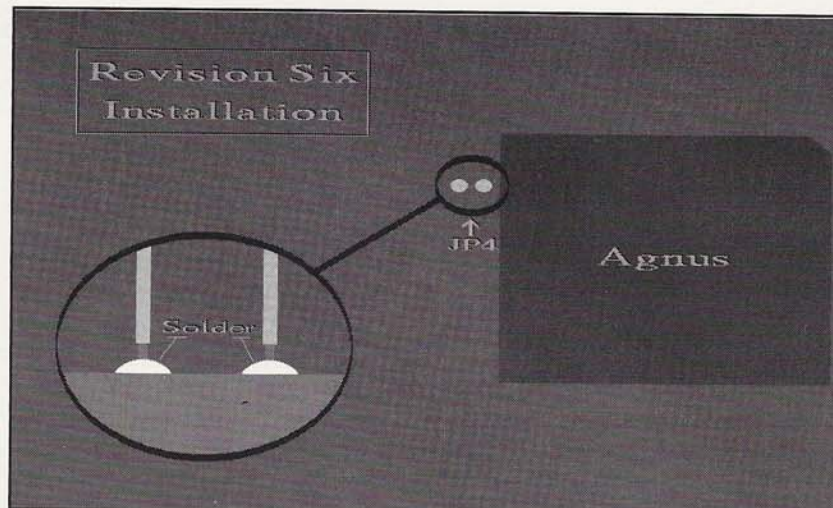
The lump of the Agnus chip which is responsible for this is connected to pin 41. Great, I hear you say, how the heck do I find that? Easy. The beveled corner of the Agnus, when you look at it so that the text is vertical, is at the top left and marks the corner between pins 11 and 12. Pins are numbered counterclockwise, starting in the middle of the top edge. There are 84 pins in total.

*"play a couple of  
games and enjoy the  
speed"*

Pin 41, to save you counting, is the ninth from the left on the bottom edge relative to the text. So on the Revision Five board, looking at the upside-down Agnus, it's the ninth from the right. Count a couple of times. Make sure you've got it (a tiny blob of white-out on the socket may help). Remove the Agnus if you haven't already, and slip one of the little hooks of the PLCC chip extractor under the pin in the socket, as shown in the illustration. Bend it up.

Now, take a piece of telephone wire (thin, solid core insulated wire), and scrape the insulation off over the last ten millimetres or so. Now bend it as shown in the illustration, so that one side is insulated and the other bare wire. Push this down into the pin gully next to the bent up pin so that the insulated side faces out. Now with your ninth hand push the Agnus back in.

The wire you have just installed will connect to one of your switch terminals. The other terminal must be connected to any convenient ground. This means any



chunk of the tin chassis, any bit of the disk drive housing, or even the bent up pin. You can connect with a alligator clip, a IC clip for the pin (less than a buck each) or just a bent paper clip, but make the connection solid.

The switch to use is preferably an SPST (Single Pole Single Throw) toggle model, but a DPST (Dual Pole Single Throw) will work fine too. The first will have only two terminals, and it doesn't matter which way you connect the wires. The other will have three, so one wire must go to the middle terminal and the other to either of the end ones. It has to be small enough for easy mounting, preferably with a quarter inch (6mm) hole. You can get such a switch from Dick Smith, Jaycar, Altronics or virtually any other electronics supply house you care to name and it won't cost more than four bucks.

Installation on a Revision Six Amiga is considerably simpler. You should already have an 8372 Agnus; if you don't, buy one and plug it in with the text rotated 90 degrees clockwise from the horizontal (the Rev. Six Agnus socket has been turned). Look to the immediate left of the socket. There will be a pair of solder pads with JP4 written under them (some of the 4 may be obscured by circuit board garbage - relax, it's the right one). Solder one switch wire to one pad and the other, predictably, to the other - a fine tip iron helps here. When the switch is on, you'll boot to NTSC as

the two pads are connected. NTSC Amigas have a solder trace running between the pads - if you have one of these machines (very unlikely, and you could hardly miss it) you'll have to cut this trace with a sharp hobby knife.

After connecting the switch in either version run a quick test. Power up. Look at the screen. Flip the switch. Reboot (if the keyboard's not plugged in just turn off, give it a few seconds and turn on again). You should have just switched modes. If not, check your connections and my instructions. If things are obviously very weird try pushing firmly down on the Agnus and any other chips you may have dislodged. If smoke rises, panic.

### The Switch

The rest is fairly straightforward (drilling the hole, mounting the switch), but one little addition you might like is to augment the two wires with some light duty speaker or similar cable, and mount some sort of plug in the middle. I use an audio RCA plug and socket. This allows you to easily get the top of the case off and away without disconnecting the switch, if you should wish to work on the machine again.

Well, that's it. Once again, if in doubt let someone else do it, but it really isn't hard if you take it slowly. I think you'll agree, on finishing, that the improvement is worth the money! □



# For Advanced Users

## Using Script Files

**David Stofberg shows how AmigaDOS can solve simple application requirements using the power of Script Files.**

**M**any people, when they come across a problem of sorts while using their Amiga, decide that the only way they can overcome the problem is to write a program to perform the operation. But they tend to overlook the power and relative availability of a solution offered by an AmigaDOS script.

AmigaDOS, especially since version 2.0 of the Operating System, provides some quite powerful means of automation and problem solving. By combining a wide variety of system commands with conditional and control constructs in a well-structured approach, many operations can be performed which would otherwise require a specially-written program in a traditional programming language such as C or BASIC.

*"With proper error handling and command construction, it can be seen that almost anything can be achieved with AmigaDOS scripting"*

The benefits of writing a script should be quite readily visible, and these include the fact that a person may not need to go out and buy an expensive development system when they could accomplish the desired task using AmigaDOS scripts. It tends to also be

much quicker and easier to solve a given problem because of the inherent high-level nature of system commands, which when put together in the right way can produce the result desired.

With all the wide array of different operations provided by AmigaDOS combined with such capabilities as piping, redirection and command substitution, some very impressive functionality can be built into a script which can perform quite complex operations. Take the following segment of one of my own scripts and you will see the sort of potential of AmigaDOS scripting:

```
echo "here are the current message
files:-"
dir unarcsask "is there an existing file
to be read?"
if not warn
echo "here's a list of your message
archives:-"
dir files lab whicharc?
echo "so which one to unpack? "
noline
echo >nil: <* to ram:msgarc ? LHA -
I -m x "type ram:msgarc" unarcs/ if
error
echo "you entered the name wrong! -
try again."
skip back whicharc?
endifendif
```

As you can see, this little example demonstrates the types of things which can be accomplished even with only a few command lines. Some operations though, such as reading a line of input and storing it in a variable, may have to

resort to little tricks such as those used above. That is another example of its power in that you can create your own extended functionalities by using special techniques.

You may have also noticed how I used a non-AmigaDOS command called LHA, which is where one of the most useful parts of scripting comes in. That is the ability to integrate external third-party commands and programs into your scripts for the purposes of further enhancing your available functionality.

This is an example of automation where tedium and repetition call for such a script. When many things need to be done over and over again and require a lot of typing and remembering, this is the type of thing which really makes life easy.

Almost all system I/O functionality and capabilities can be accessed via scripts, and even process and task control can be manipulated via AmigaDOS commands integrated into scripts. With many third party utilities, many other operations can be effected such as manipulating the actual window in which the script is running and switching between different Amiga video modes. One can also turn off system requesters for unattended script operations with appropriate action taken for any errors which may result from different situations.

With proper error handling and command construction, it can be seen that almost anything can be achieved with AmigaDOS scripting. The availability of many and varied commands and the added potential of the vast resources of third party utilities, makes the AmigaDOS scripting environment a very attractive proposition when it comes to solving many problems and helping to automate tasks.

Of course it is important to read through all documentation on AmigaDOS to learn the full syntax and capabilities of each command. Same can be said for the external third party utilities which usually come with some sort of instructions so that all can be used to their full potential and greater power can be harnessed from these commands.



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# Talking to the World from Your Computer



**Connect your computer to the telephone, with a little help from a modem and as Daniel Rutter explains, soon you'll be talking to the world.**

**C**ommunication by computer is the way of the future. IBM is setting up a massive digital system in the US, using cable TV connections to allow information services into the home of anyone who can pay. There's no arguing with the fact that computers work best when they can talk to each other. But right now, and for a lot less, you can enjoy the benefits of getting connected - and it's easier than you think.

You've probably heard about computer communications. You may know that you can use it to talk to people in distant countries for the price of a local phone call, collect free software and play some fun games. But whenever you try to find out what it's all about you get snowed under in baud rates, Hayes commands, points, nodes, nets, echoes, ratios ...

Well, here's a computer communications guide for those of the genus Homo Sapiens. There's a big guy with a brick on a string behind me, who will administer it swiftly to the back of my neck should I lapse into jargon.

## **Getting Started - Understanding Speed**

There are two things you need, as well as your computer, to get into computer communications. The first is a modem. This add-on takes information from your computer and turns it into

sound, which is sent down a telephone line. A modem can receive at the same time as it can send these sounds. Modems move information at different speeds, depending roughly on how much you pay for one.

A slow modem sends around 35 letters or characters each second. These old clunkers are not made any more, and in technical terms such speed is actually measured in the number of blips sent every second. You need eight blips to describe one letter of a word. These blips are called bits. One bit corresponds to the 0's and 1's used to store information in your computer's memory. So, 300 bits per second is about 34 characters per second. That's about five words, or in one minute 300 words - around one tenth of this article. Very slow!

The standard at the moment is 2400 baud, or about 290 words a second. This is a more respectable speed - you could send this entire article to another computer over the phone in as little as ten seconds.

Of course, in the constant quest for greater speed and the growing size of graphics and program files, more and more people are choosing faster modems of 9600-14400 baud. With this sort of power, large amounts of information can be transferred to your computer in seconds. By means of further digital jiggery-pokery, these fast modems can go right up to an effective

38400 baud on some data using a very quiet telephone line.

## **Set Up Costs**

At present, an entry level 2400 baud modem will set you back less than \$300 new, less than \$200 used; a full power all bells and whistles 14400 around \$650 new. If you're really on a shoestring, ancient 1200 baud modems can be had second (or more probably fourth) hand for well under \$100, but many bulletin boards (see below) don't support rates below 2400 any more.

The other thing you'll need is a communications program. Acting as an interface between you and the computer at the other end, you need never know about your modem or how the technicalities of sending data over the phone line. The right communications software will make it all pretty straight forward. Of course, some understanding of what's going on will make sorting out any little hiccups much easier.

## **Software Power**

Your communication software can be used to send and receive entire programs, which is a great way to collect and share freely distributable software. Sending from your computer to another is called uploading. Receiving files is called downloading.



Some games allow a modem connection to another player with the same game. This makes it possible to play against someone else living thousands of kilometers away, or in another room. Both versions of *Populous* and many flight simulators offer this facility.

There are lots of communication programs available for the Amiga, some of the most popular being *JR-Comm* (shortly to become *Terminus*), *NComm* and *Term* (for Workbench 2 users only). The reason these are so popular is that the first two are ShareWare and *Term* is completely free, while other programs like *BaudBandit* are commercial.

All of these programs are well documented and quite easy to use - they have powerful high level script and configuration options but for everyday use you can just run out of the box. If you can run a word processor, you can run a communications program.

### Who To Talk To

So you've got your modem and your software - where to now? By far the most popular use for modems is calling Bulletin Board Systems (BBSs). These are computers set up by people who like to be called System Operators

(SysOps), whose purpose is to receive and transmit messages, and store files, for the public good.

Some BBSs charge fees for high level access (staying on for longer, downloading more); these fees are seldom very steep and you can get along perfectly well without paying anything. BBSs are not set up for profit.

Usually, BBSs are set up so that in order to download files beyond a fairly modest new user limit, you must upload something in return, your uploads usually giving something like five or ten times as much download allowance. You can improve or even completely remove this ratio by paying membership fees, but the ratio is the mechanism used to make sure BBSs have new files on hand, and it works well as long as idiots don't do damn fool things like uploading the same file nine times with different names - and yes, your friendly sysop WILL notice this, and boot the miscreant off.

### Getting Software Free

File transfer is achieved by means of special protocols. These are conventions by which the systems at either end of the phone line parcel up files, with various extra bits stuck in to check for er-

rors, file lengths and so on. The most common protocol is called ZModem; it combines high speed with good reliability.

If you look at the files on bulletin boards, you'll see that just about all of them have a suffix along the lines of .LZH, .LHA, or for IBM files .ARJ or .ZIP. These suffixes indicate that the files are archives.

An archive is a load of files, which have been algorithmically squished and bunched together. This is done for two reasons. One, an archive is smaller than the sum of the files that went into it, and hence uploads and downloads faster and takes up less room on the BBS computer. And two, many programs have several support files - documentation, icons and so on - which would be annoying to download separately. An archive puts them all in one place, where they can all be downloaded under one name.

The down side of archives is that they're useless to you until you unarchive them. Most Amiga users will only ever need one archiving/unarchiving program, *LhA*. This ShareWare utility handles the two most popular Amiga archive formats, .LHA and .LZH, is exhaustively documented and is not TOO hard to use if you're

## Australian Amiga Bulletin Boards

These are boards which are pretty much Amiga specific. There are many other boards which also support the Amiga to some extent, but these'll do you for starters.

(06) 292-6826 Amiga Empire  
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(06) 239-6659 Desktop Utilities BBS  
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(070) 31-4186 The Ice Cave  
(07) 203-4071 The R.A.B.I.T. BBS  
(07) 351-5193 The Turbo Charged BBS  
(07) 281-9418 Transcendental Connection  
(08) 293-5399 Adelaide Amiga User Group BBS  
(08) 341-5944 Fred's BBS  
(002) 63-5278 The Dragon's Weyr  
(03) 376-7375 Amiga Central  
(059) 79-3589 Amiga World  
(053) 42-0845 Ballarat Mail  
(03) 569-8873 Crazy Diamond BBS  
(052) 44-2714 Eclipse BBS  
(03) 326-0440 Guru Meditation BBS  
(051) 26-1031 Jeff's Amiga Board  
(055) 25-0462 Swag BBS



familiar with the Command Line Interface (CLI).

A simpler technique is to use a directory utility, like *DirWork* (ShareWare) or *DirOpus* (commercial), which will automatically make or extract archives with the click of a mouse. You'll be able to find *LhA* on any Amiga supporting BBS.

If you're going to deal with IBM .ZIP or .ARJ files (usually text files), you'll need two other utilities, inventively titled *UnARJ* and *UnZIP*. These won't make ZIP or ARJ archives, but they extract them fine, which is all you'll need to do.

There are three other compression formats you might run into now and then - ARC, ZOO and GIF. ARC and ZOO are old archive formats, and virtually unused these days, but you might still encounter them - ZOO more than ARC. The programs to create and extract such archives are called, astonishingly, *Arc* and *Zoo*.

GIF, however, is very much alive. It's a format used widely on the IBM, and its sole purpose is picture storage. GIF pictures take much longer to display than Amiga IFFs, but they're much smaller, and with the extra CPU muscle of faster machines the extra display time is not a major concern.

On the Amiga you can view GIF pictures and convert them to Amiga format with several programs, the best being *Wasp* and *Gif\_View*. Another one, *FastGIF*, is good for previewing pictures - it's REALLY quick, but if the picture's got more than 16 colours it'll display in greyscale.

Many BBS users - described by some as leeches - stick to the file areas, downloading files like crazy, uploading the bare minimum, and basically doing nothing else with the board. This is a great pity, since files are only half of a BBS's content.

### Free Information and Advice

The other side to a BBS is its message areas. Every board has a few local message areas - usually titled some-

thing like General, Sysop Messages, Amiga, IBM and so forth for discussions on those topics between users of that one board.

However, using a special network of systems all around the world, messages can travel much further. The system is called echo mail, and the network most often used is called FidoNET. Every morning in the wee small hours, bulletin boards stop accepting calls from the public and start talking amongst themselves.

New messages in dozens of different subject areas are passed ("echoed") from the boards on which they were written to other boards, and will the next night be passed on again even further afield. In around a week (sometimes much less, sometimes much more, depending on the status of the intervening boards) a message from Australia can be in the UK, Alaska or indeed darn near anywhere.

For EchoMail within Australia, a message written in Perth will reliably make it to Sydney in a couple of days. For the price of a phone call, this is a very good deal! And you'll probably only have to pay the local call rate; check out the list at the end of this article to see if you're in local range of an Amiga board!

Of course, you can always call an IBM board (many boards supporting Amiga run on PC clones), but you'll not find any Amiga files and probably no Amiga related echoes.

There are many different networks around the world, each of which contains many separate echoes, but the biggest one you'll be able to access from Australian public bulletin boards is called FidoNet, and contains many Australian and international echo areas.

For example, there's *Aust\_Amiga*, an Australia-only Amiga echo in which I participate. If you've got a query, posting it here will get you a fairly swift reply from a knowledgeable user.

Another useful Australian echo is *Aust\_Trading*, a Trading Post style echo in which you can advertise things for private sale (NO commercial messages are permitted), and in which you can

find advertised everything from computer accessories to cars. It's not as good as the paper version, but it's also free.

I could go on listing areas, but we'd be here all day. In FidoNet you can find echoes on every subject under the sun - Bible study, anaesthesiology, professional and home audio, aircraft piloting, support echoes for any program you care to name. And if that's not enough, some Australian boards also support the rather smaller WorldNet, which attracts strong participation from south-east Asia, and the much smaller but useful AmigaNet! There really is a world of information out there awaiting you.

Some echoes have specific restrictions on the subject under discussion. For example, anything posted on *Aust\_Amiga* must (in essence) be related to the Amiga, and not of a commercial nature.

These rules are enforced by people called moderators, who will gently admonish you should you make a mistake and have the power to tell your sysop to ban you from the echo if you persistently break the rules. Some echoes, though, are unmoderated and have no restriction on discussable subjects - or indeed the language used to discuss them.

A perfect example is *Life, The Universe And Everything* (invariably shortened to LTUAE), where you'll find discussions on religion, politics, why shower curtains stick to your legs and darn near anything else you care to name - although said discussion can get rather colourful at times. The legality of such echoes has been the subject of long debate, but since nobody's ever got very concerned about it and they don't do anyone any harm, they seem to be here to stay.

### Message Conventions

As you read through messages (for your information, somebody who just read messages and never posts any is called a lurker), you'll probably be mystified by the shorthand used by the post-



ers. When you're communicating by typing, it's natural to use contractions to get your message across with minimum finger damage.

So messages become msgs, something funny might cause you to ROFL (Roll On the Floor Laughing), you might preface a contentious statement with IMHO (In My Humble Opinion) or even IMNSHO (...Not So...). On top of that, there are a million variations on the humble Smiley, a smiling face turned on its side, viz: ":-)" and used to indicate when the writer is joking or amused. To list them would double the size of this article - let your imagination go wild, but don't use mine, which is (+).

Note that the basic nature of EchoMail is that it's public. In some areas you can use an alias instead of your real name, but that's all the privacy you can get. Which, of course, is the whole idea, since EchoMail's sup-

posed to be a public forum, but what if you want to send a private message to someone on another board?

Have no fear, NetMail is here. You need to know the name of the person you're posting to, and the FidoNet (other large nets have NetMail but Fido's the only public one in Australia) address of his bulletin board, which will look something like 3:714/909, which is the address of a board I frequent (drop me a line!).

Then you can post the message as normal, and you can make it private, so that only the recipient can read it, or public, so that anyone on that board can.

The message will not be fanned out like regular EchoMail, but will be sent as directly as possible to the destination. It's cheaper than sending a letter, and often faster. Mind you, it's also less reliable, since a glitch anywhere along its path can kill it, and less pri-

vate, since the sysop of the sending or receiving board can read it should they wish, but these aren't major problems.

## And What Else?

Well, there's always games. These allow you to compete with other users on the same Bulletin Board System to see who's best at beating up monsters in dank dungeons, campaigning one's way across a kingdom, planet or galaxy, or just playing Yahtzee or Hangman. There are dozens of different games, some rather average, some really good, and once again you only have to pay for a phone call. Some games, like *Barren Realms Elite* or *Dragon Warz*, even work on mini-nets, so players on different boards can beat each other up!

So there you have it - the ten cent guide to comms. I look forward to seeing you on the nets! □

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# AREXX - why use it?

**Linking together powerful applications or just automating mundane tasks, Jeff Wilson explains why AREXX is worth checking out.**

Having a need to control other programs from a CanDo interface, it was time to introduce myself to ARExx. ARExx has been available for some time on the Amiga but I've not had a need for it to date (or more correctly no doubt, have lived in ignorance of it and its capabilities). With the arrival of 2.04 of the operating system it has become more available to everyone, but lacks the explanation in the manual needed to educate a beginner to its powers.

## History

ARExx was developed by William Hawes from the USA and released by him in 1987. It was closely based on the REXX language that was described in a book by M. F. Cowlishaw (*The REXX Language: A practical approach to programming*) published in 1985. William Hawes not only developed, but also published and distributed ARExx for the Amiga until the release of Workbench 2.04. With the release of Version 2.04 of the Operating System, AmigaBasic was gone and ARExx was left in its place.

Although most people had heard of ARExx, few really knew what it was, and therefore many complained of the demise of AmigaBasic while not realizing that they had a much more powerful language available to them.

ARExx is three things in one:

- a language for developing complete programs from scratch,
- a scripting language for writing small programs that will do repetitious tasks
- and finally it is an inter-process communication program that will link different programs together and take advantage of the Amiga's ability to multitask.

A program that takes advantage of the ARExx language is *Professional Page 3.0* which uses genies, which in reality are scripts that control internal functions to automate setup procedures, and has an ARExx Host port that will allow for external control of these features.

## As a Language

ARExx as a language supports all the

normal things needed to write programs such as String Handling, File input and output, User written functions and of course, flow control and arithmetic ability.

ARExx programs are written using your choice of text editor and are saved as default with a .rexx suffix. The .rexx suffix is not necessary, but is used by convention and I think it is a good practice to follow.

## Documentation

As I mentioned earlier, documentation for the use of ARExx is sparse and unless you've bought the original package from Bill Hawes, there's a need for better explanations. This is now available through a good book by Abacus called *Using ARExx on the Amiga*.

The book promises to be a guide to using the ARExx programming language on the Amiga. It is supplied with a companion disk that includes samples of what the ARExx language can be used for and features a few standalone applications.

The book is divided into five sections, which leads to a natural progression into the learning of a language. These five sections in short detail are as follows:

## Getting Acquainted

This starts with an introduction into ARExx, giving its history, explaining what constitutes a programming language, the uses of ARExx and a few short examples.

It goes on to explain the fundamentals of the ARExx system and the different sections that make up ARExx like the RexxMast:, the rexxsyslib.library and the RX program which is used to run the ARExx scripts.

Installing ARExx is covered in two ways, the first if you received ARExx on your operating system and the second if you purchased the ARExx programming language which came with a manual and disk. The book

The handy pop-up ARExx Reference Guide





also explains how to run and use ARexx without installing it on your hard disk or system disk.

Standard libraries are explained with the optional libraries shown as well. With the explanation of the optional libraries, it soon becomes apparent that they also will be required to fully implement ARexx.

Creating an ARexx script is explained in basics. Then the book covers running a script from a shell and from Workbench and the differences between the two.

It gives some examples of everyday uses for the ARexx scripts to help explain why someone would go to the trouble of writing a script in the first place. Simply put, if you do some process on a regular basis then you should consider writing a script to automate that process. A good example is given for people who use a BBS often and download archived files.

It also explains using ARexx from

within another program. This allows you to be using one program and have another one carry out a process and return the result to you for use in the program that you are using at that time.

Towards the end of Section I you can gain some hands on experience, although at this stage it is optional. The ARexx Paint program that is found on the companion disk is used as a host application and you are given examples of scripts that get it to carry out certain tasks. These show how a few lines of script can accomplish what would have otherwise have been a long and laborious task. You gain your first insight into script writing for ARexx and get to know some of the common commands from the language.

Section I ends with a coverage of the different types of programs that support an ARexx port and how they can be used to advantage. The programs covered here are but a few of the many that now support an ARexx interface.

## ARexx Programming

Now into the thick of it where you really get your hands dirty. Section II is devoted to programming in ARexx and this begins at Chapter 4.

This chapter sets out a task of writing a script to accomplish asking the user for their name, reading the name into a variable, and then outputting a sentence that includes the name that the user supplied.

You are led slowly through the stages of forming this script by covering the SAY command, the PARSE command, the PULL command and the use of variables. These commands are only covered simply at this stage - the book says they will be covered in more detail in Chapter 10.

Also covered in Chapter 4 are good programming habits that should be formed and the reasons for them and ends with the final script you have written that will complete your first simple ARexx script.

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The next chapter elaborates on expressions, terms, operators and variables which were covered in Chapter 4. It takes a closer look at how ARexx handles numeric values and some peculiarities which ARexx possesses, compared with how other programming languages handle them.

The remaining chapters go through the other commands and functions needed to use the ARexx language as a standalone language. On completion you have a real understanding of the use of ARexx and are ready to write some smart programs.

## Controlling Applications

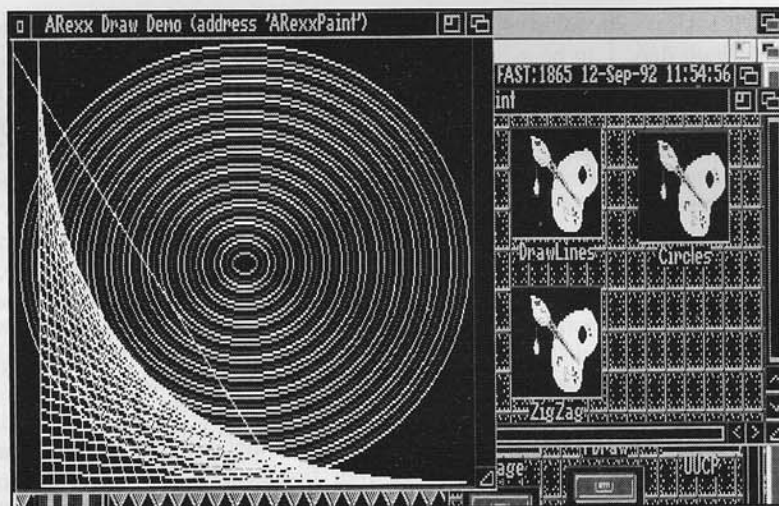
This section begins with a look at External Control which is inter-process control. This is based around the use of the ADDRESS instruction which is explained in detail. This section shows the advantage of multitasking and what can be achieved by ARexx in this multitasking environment.

Macro writing is covered in detail, and so is the execution of these macros from within a process and also externally as some programs do not allow for internal macro execution.

This section then branches into the use of ARexx in specific applications, covering such programs as *ProWrite*, *Electric Thesaurus*, *A-Talk III*, *Baud Bandit*, *Art Department Professional*, *Digi-Paint 3*, *IntroCad Plus*, *CanDo*, *HyperBook*, *AmigaVision*, *ShowMaker*, *IllumiLink*, *Bars and Pipes Professional*, *SuperBase Professional 4*, *Fred Speed Dialer*, *SuperPlan*, *Home Office Advantage*, *C.A.P.E.* 68K Version 2.5, and finally *SAS C V5.10*.

## Reference

This section consists of an alphabetic listing of every instruction, built-in function and support function, with a syntax



ARexx Paint Program from companion disk

summary and brief description. Most entries also include sample code.

The Final section of the book is the Appendix which covers the following topics:

- A. Using a Text Editor
- B. ARexx Support Software
- C. ASCII Chart
- D. Vendors and Products

This book is a must for anyone thinking of getting into the ARexx language whether they be beginner or expert. I've not been a lover of Abacus books in the past but this one is exceptionally good, with clear and concise instructions and information.

## Other Sources of Information

Various magazines have run articles over the last couple of years on the use of ARexx and also on programming ARexx applications. Some of these have been good reading and one that comes to mind is the series run in the *CU Amiga Magazine* starting with the June 1992 issue. *Amazing Computing Magazine* also has a section devoted to programming in ARexx.

Fish 689 contains TKEd which is a Shareware Text Editor with many other features such as the ability to read *PowerPacker* files and also supports 102 ARexx commands for external control.

Fish 682 contains the *RexxHostLib* which is a shared library to aid the Host creation/management system of an application that you may have developed. It allows for AmigaBasic programs that you've written to control an external application.

Fish 634 contains *APIG* which is ARexx Programmers Intuition Graphics, a shared library to access most of the system intuition, graphic

and layer library functions. This is of course for the ARexx programmer who would like to use the system borders/gadgets requesters etc.

Fish 629 *RexxRMF* contains the ARexx Record Management Functions library to allow keying of data and control over records to allow for faster search and sort routines and keying of multiple indices within a record.

The extra libraries mentioned above can be found on the Fred Fish collection of disks along with many other useful utilities to be used with the ARexx language. Many good programs are also to be found on Fish Disks that support ARexx, one of these being *Term 2.3* which is in my opinion the best terminal package for Workbench 2.x.

As a footnote and to make this article complete, mention must be given to the *RexxPlus Compiler* from Dineen Edwards Group. No language is really complete unless it can be compiled to give it the much needed speed. This would appear to be a good compiler from what I've read. More details on this from the Dineen Edwards Group, 19785 W. Twelve Mile Rd., Ste. 305 Southfield, MI 48076-2553.

ARexx is an easy language to learn with quite powerful possibilities, so start learning it and make your future life less complicated by automating your computer use. Better still write the next best software seller, anything is possible with ARexx. □



# Two Kickstarts - better than one?

*If you need to choose Kickstarts at the flick of a switch, here's what you need, says Daniel Rutter.*

**M**ore and more people are now upgrading to Commodore's greatly improved Workbench 2. More and more programs are now appearing which support its improved features. And more than a few programs are appearing which will run only with the new version.

So the simple solution would appear to involve purchasing the Enhancer package, which includes the new ROM (the Read Only Memory chip which holds the Kickstart data which is the core of the operating system), the four Workbench disks and the excellent new manual, and plugging in the new chip.

But life is not this simple. Many programmers, in their efforts to wring every last bit of whiz-bang performance out of the machine, have resorted to dirty tricks well outside Commodore's proscribed guidelines. This means that when you plug in your new ROM and boot your favourite game - games being most likely to be outside the law - there is a considerable probability that large amounts of nothing in particular will take place. This is deeply annoying.

Now, you can solve this problem easily by changing your version 2 Kickstart chip for the old 1.x whenever you play a game, but the rigmarole entailed will rapidly have you in the corner of an upholstered cubicle making silly noises with your lower lip. Alternately, you can get hold of a board which allows you to use both Kickstart chips, and switch between them as needed.

## Solution

This is where the inventively titled Double Kickstart Adaptor comes in. This

delectable device is only available from Megadisc Digital Publishing, who may be reached on (02) 959 3692, or 008 227 418 for orders. It is a simple board which fits into the Kickstart chip's socket, accepts the old ROM on top and has a second socket for the version 2 chip.

*"When booting or powering up the machine, just hold down the left mouse button and you will have your old Workbench"*

The nice thing about this board is that it is electronically switched. When booting or powering up the machine, just hold down the left mouse button and you will have your old Workbench. Leave it alone and there will be the WB2 insert disk animation in all its glory. This is good for two reasons. First, there's no mucking about with hole drilling and similar hair raising activities for the novice. Your Amiga case remains pristine.

Second, it is quite impossible to accidentally switch chips while running. A simple mechanical switch will hang the machine drastically and immediately if swiped over to another ROM mid-session. Note, however, that not all mechanical type switches do this, as they can use a mechanical switch to activate an electronic mechanism like Unitech's Kickboard.

## Installation

The installation is not difficult - even for the novice. Much of the average user's fear of doing anything to the inside of his or her computer is unwarranted, as with very simple safety precautions it is actually quite difficult to do it any harm. The old disclaimer remains, though. If you are doubtful, get a technician to do it for you. If you fry your computer or yourself, tough. It is deeply unlikely to come to that, but I'm allergic to litigation.

All that is involved is to remove the Amiga's case and tin radio shield, touch the disk drive casing to ground yourself, locate the Kickstart, lever it out with a screwdriver, plug in the board and then the ROM on top. Then, for the switch to work, you have to remove your odd CIA chip, stick the adaptor socket in where it was and piggy-back it on top. Reassemble the machine, and take a bow; that's it! It took me five minutes and shouldn't take even the most hesitant reader more than a quarter of an hour.

## Functioning

The board has functioned flawlessly ever since I installed it. My only problem lies with a little program I run at the head of my startup-sequence, called *CheckPAL*. It checks to see if the Amiga has booted, as they sometimes do, into NTSC (American) video mode by mistake. If it has, it reboots. Now, if I boot into 1.3 by pressing the button and get NTSC, *CheckPAL* will boot me into Workbench 2 and my 1.3 startup will fall to bits. This is a very, very minor niggle, but it's the biggest one I could find. The board works, perfectly.

The board with the ROM costs \$100 (or \$50 without the ROM), plus \$7.50 postage and packing, and you also qualify for a free PD disk from Megadisc's enormous library! Incidentally, if all you want is the board without the ROM and you've experience in the construction of electronic projects, complete instructions for building your own adaptor board precisely the same as this one are in Megadisc 26. □



## For Advanced Users

# Next to C Oberon

The English version of Amiga Oberon was produced largely by Rainer Liffers of Tenera Merx Pty Ltd from Western Australia in co-operation with its German author Fridtjof Siebert and A + L AG of Switzerland. A + L AG also produce the M2 Amiga Modula-2 software development system.

The Oberon Software development system provides a viable alternative to C and assembler. The implementation provides some isolation from some of the complexities of programming on the Amiga.

Oberon is the latest programming language written by Professor Dr Nicholas Wirth from ETH in Zurich, Switzerland. It developed out of Modula-2 which itself was developed out of Pascal. In Modula-2 it was already possible to construct new procedures from existing modules and procedures. Oberon extends this ability to data types as well. This ability is one of the defining characteristics of object-oriented programming languages. This technique allows and even encourages the reuse of modules based on pre-existing libraries of procedures, thus greatly improving programmer productivity.

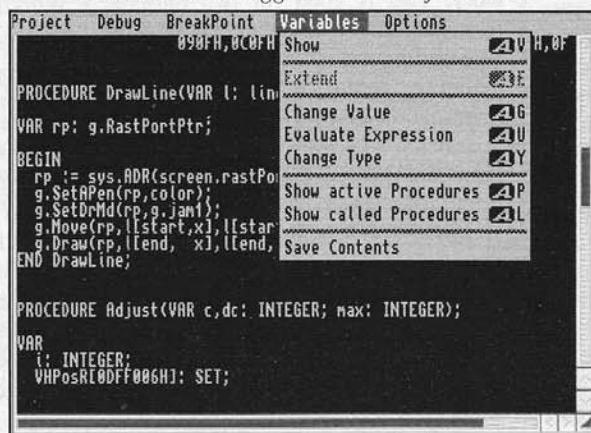
## Roots

The Oberon language is similar to Modula-2 and to Pascal but there are important differences which do not allow source code compatibility. The differences between Modula-2 and Oberon are covered in a

chapter in the user guide and by an extensive file on disk. One of the main differences is in the specification of import list lists. Instead of the clause FROM X IMPORT Y in Modula-2 Oberon imports the whole module. Identifiers from imported modules must always be qualified. Features omitted from Modula-2 include variant records enumeration and subrange types, Cardinal (unsigned integer) type. The FOR and WITH statements have been removed from the language.

The Revised report defining the Oberon programming language written by Professor Wirth is also provided on disk. The documentation provided is aimed at programmers who have a reasonable understanding of Modula-2. A programmer who is experienced in programming the Amiga in 'C' or Pascal should be able to quickly pick up enough information to start programming in Oberon. I found it sufficient to convert some of my Modula-2 programs to Oberon.

The Oberon debugger: clean and functional



## In the Box

The package consists of an Oberon specific editor OED which supports interactive compilation, linking, error reporting and program execution. It is a single pass optimising compiler. The format of the object modules produced adhere to standard binary file structure and thus allow the linking of Oberon programs with functions written in different languages such as C and Assembler. This would enable the use of the many public domain programs that convert IFF pictures into images that can be incorporated into programs. The arp requester library is also supplied and is used automatically if the system is installed on a Workbench 1.3 system.

The linker binds Oberon programs together in an optimised fashion. Any unused procedures are not included in the executable. Eg an empty Oberon program takes up approximately half a kilobyte. There is also a tool which allows the automatic generation of Amiga runtime libraries from Oberon source.

The compiler and all associated tools are reentrant and may be made resident. There is a compiler option which allows the generation of resident, reentrant programs.

The package also comes with an "active" Make program. This utility simplifies recompilation in large programming projects. It automatically locates and recompiles other affected modules in the event that one or more modules have been changed. This is different to the common Make facility provided for

C programs which requires the programmer to specify how the program fits together manually.

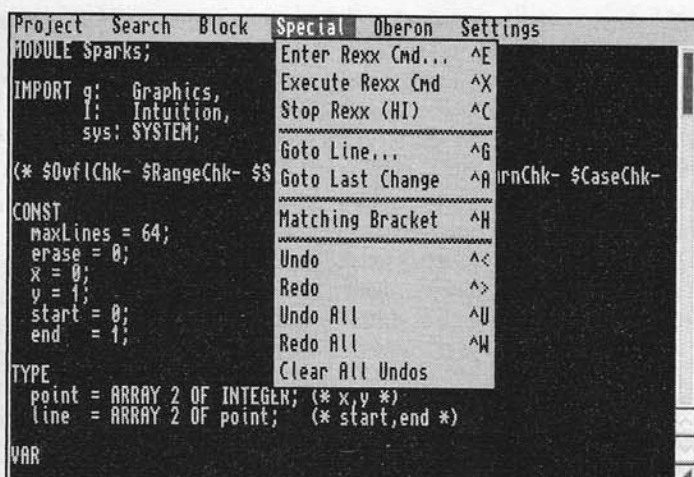
Also provided is a comprehensive module library which provides manipulation functions for AVL trees (useful for setting up indexes to data), strings, screens, windows, requesters and files as well as a complete set of Amiga interface modules that allow all the Amiga runtime libraries to be used (eg Intuition).

Available at extra cost is a source level debugger package.



This takes full advantage of the multitasking capabilities of the Amiga and enables both CLI and Workbench Oberon programs to be debugged. The Debugger enables any Oberon program to be executed with the user able to see execution paths, insert breakpoints and change the contents of variables.

Also included in the package are versions of the compiler, editor and linker optimised to run on 68020 & 68030 processors and a tool to generate cross reference listing of modules.



The Oberon Editor

## System requirements

Amiga with Workbench 1.3 or higher and 1.5 MB (or more) of memory. For installation on a hard disk ensure that you have between 2.5 and 3 MB free. The compiler is set up to run and to produce programs to run using both Workbench 1.3 and Workbench 2.0.

## Installation

Whilst the installation procedures are clearly explained in the manual, there is no installation program as such. For installation on a hard disk you have to set up a directory and manually copy files from the distribution discs and configure the startup-sequence. It was simple but more tedious and error prone than the the installation of SAS C for example.

## First Impressions

The documentation provided is well written and clearly explains features of the package and of the Oberon language. A directory of some sample programs is provided, as are the source codes to some of the Oberon support modules. Unfortunately some of the programs are still in the original German. Nevertheless the sample code helps you to get up and running quickly. I feel that the provision of a sample run of the operation of the source level debugger would flatten the learning curve of a very powerful tool.

## The Editor - OED

The editor provides an integrated development environment. From the editor it is possible to change, compile,

link and execute Oberon programs. I found it easy to get up and running using the extensive menus. Most items have hotkey alternatives. One of the most useful options is Auto Upper case. with this option selected all Oberon reserved words are converted to the required upper case. This feature will save much time developing programs in a case-sensitive language such as Oberon.

The editor has an undo buffer that is able to contain up to 100 entries.

All compiler settings may be changed by menu from the editor. In addition there is a parse facility which is much faster than doing a full compile. It is great for finding obvious syntax errors such as missing semicolons or END statements. However, the parser does not detect semantic errors such as incompatible types. The one problem that I found was that the parser stops at the first error, so if your program had 20 errors you would need to parse the program 20 times. If you had compiled the program you would be able to correct all the errors before recompiling.

OED includes a powerful ARExx interface that allows ARExx programs to select many of the menu functions. The editor allows you to associate ARExx

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programs to particular function keys.

I found the editor to be quite quick and very easy to start using productively. It was able to rapidly scroll through the files, locate string etc. The environment provided by the editor is conducive to the speedy development of Oberon programs. The many Oberon specific features result in it being a better choice for doing so than any general purpose programmer's editor.

### **The Compiler - Oberon**

Oberon is the actual compiler. It processes the ASCII source file and generates an external symbol file containing information about all objects exported by the compiled module and an optimised object module containing the generated object code. In the event that errors are detected it only generates and stores an error file containing details of error location and error message. The compiler supports setting up separate directories for the source, object and symbolic files. If you have ample memory you can now nominate particular symbol files (or all) to be kept in memory. This greatly speeds the second and any subsequent compilations.

The easiest way of invoking the compiler is by selecting the compiler menu choice from OED. The compiler generates standard Amiga object modules which can be linked (according to the manual) with Assembler and C programs. I did not test this feature.

The language has been extended with several Amiga specific keywords that enable the easy accessing of the C record structure used in the Amiga operating system. A new label (CLOSE) has been added. At this location all resources used by the module should be freed.

This Oberon implementation does not use garbage collection techniques for memory management as described in the "Oberon Report". Instead it allows memory allocation using the Pascal like procedures NEW() and DISPOSE(). Memory so allocated is automatically returned to the system upon program termination. You can also use

the standard Amiga memory allocation routines available through the Amiga interface modules.

Oberon supports the definition of record and array constants. Such structured constants may be used like variables of the same type except in that the program cannot change their value. There are provided procedures for doing bitwise rotation of integers and sets, for logical shifts right & left and other low level procedures. There are options that control the interaction of parameters and the stack, what runtime checks are required, whether to use the smallcode model for code or data and whether to enable the source level debugger.

The compiler also supports the conditional compilation of source code. In this way the one source file could be used to generate different programs in English or German, for example. Constant character strings are similar to C strings. They are always stored at even addresses and are always terminated by a NULL (0X) byte. Single characters may be accessed in a similar way to arrays. Control characters may be inserted using the backslash ('\') as an escape character. eg '\n' would cause a line feed.

### **Modula-2**

The maximum code length of any one module is 32768 bytes. The maximum identifier name length is 79 characters. The maximum area for global variables for efficient access should be less than 32 kb (however up to two gigabytes may be accessed). Open array parameters have a maximum size of 32 kb.

The Oberon run time system provides the basic facilities such as long integer number calculations and some runtime error trapping. More extensive error trapping is available by importing NoGuru modules. Also provided are modules to allow the interruption of programs by pressing control 'C'. Oberon programs are always able to be executed from both the CLI and Workbench. A module has been provided that will return the calling arguments to the

program in either environment.

### **The Source-level Debugger - ODebug**

This is an extra cost option that greatly speeds the debugging effort. To use the debugger modules have to be compiled using the debug option. This option causes the Debug module to be imported and to generate special code for displaying the compiled modules under the debugger. The compiler also generates reference files containing additional information for the debugger.

The debugger may be used by starting ODebug from either CLI or Workbench. The ODebug initial screen is displayed. This screen displays a message requesting the start of a program compiled with the debug (-g) option. After you start such a program from either CLI or Workbench, the initial ODebug screen is replaced by a window displaying the source text of each module compiled for debugging. This is an interesting use of the Amiga's multitasking (eat your heart out Windows programmers).

The debugger has facilities for stepping through a program, for running to a breakpoint, for modifying the values of variables.

When I first tried ODebug I found it to be extremely slow. Responses to menu choices took many seconds. The program was only usable if you were extremely patient. However, I found that if I copied the source, executable and reference files to ram: and ran ODebug from there, response was very much faster and the facility was a pleasure to use. I found that compiling the module to be tested after selecting the use of resident symbol files resulted in similar improvements.

### **The Library linker - LibLink**

This utility allows you to convert Amiga Oberon modules into Amiga compatible runtime libraries and devices. For this to be successful all modules linked to form the library must be

reentrant. Particular compiler options must also be used. As documented in the manual this facility looks to be one of the easiest ways of developing Amiga Libraries.

### **The Error Reporter - OErr**

This is required if you decide to use an editor other than OED. This utility produces a report detailing the line in error followed by lines describing the error numbers and error messages. My choice would be to use OED.

### **Conclusions**

The Oberon compiler is an industrial strength compiler. If there are any Modula-2 or Pascal programmers who are looking for a language system to begin programming on the Amiga and can not bring themselves to learn 'C' then I believe that they will be extremely

happy with the program. Other people who want to experiment with Object Oriented Programming techniques on the Amiga will have fun. The documentation is of a very high standard and explains everything in great detail.

Over the last three years I spent many hours writing a home inventory manager in M2 Amiga Modula-2. During this time I found the system to be extremely reliable. Oberon addresses many of the shortcomings such as not being able to link with modules written in other languages, and the ability to write Amiga runtime libraries and devices would make Oberon my preferred choice. The much smaller executables produced by Oberon is another worthwhile improvement.

### **Improvements**

None of the programs auto detach when started from the CLI. The compiler provides no facilities for the easy

coding of gadgets and menus for Workbench 1.3. The only facility provided is an interface to the Amiga system libraries. If you access Amiga specific memory structures by use of the STRUCT key word the debugger will not let you examine them field by field as it will for RECORD structures.

The Compiler package including Editor, Compiler, Linker, Library linker, Make utility, comprehensive libraries of utility functions and a complete set of Amiga interface modules compatible with Workbench 1.3 and Workbench 2.0 is priced at \$345.00 plus \$12.00 postage. The Debugger package which consists of the Source level debugger, an object disassembler, module identifier cross reference generator and versions of the tools from the optimised from 68020-68030 processor chips costs \$230.00 plus \$4.00 postage. The supplier is Tenera Merx Productions Pty Ltd, 5 Kochia Court, Heathridge, WA 6027. □

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# Linking up with Parnet

***You can link your Amiga to another Amiga or to a CDTV thanks to a public domain network called Parnet. Here we look at using your CDTV as a CD-ROM from any Amiga.***

**C**DTV's have retailed for an average price of \$699. That price dropped to an irresistible \$599 at one stage indicating that it may be the bargain of the year.

I had previously toyed with the idea of waiting for Commodore to release a CDTV drive for the A2000/3000, but impatience had the better of me and considering that a compatible CD-Rom drive alone would cost at least this much, I had no problem justifying the purchase.

## ***What is it?***

For anyone that is unfamiliar with the CDTV concept, the hardware is basically an Amiga 500 with a CD-Rom drive and infra-red controls built in. The unit can be connected to a Hi-Fi system and plays normal audio CDs as well as the graphics encoded CD +G format.

The real power comes from its heralded multimedia capabilities using a huge amount of data that can be stored on CD. This data is in a priority format that the CDTV can read but, as many Amiga owners already know, this is the standard format used by the Amiga operating system.

There are a few other features that the CDTV unit has which are not commonly referenced but add to its appeal. For instance, there is a built-in MIDI interface for music buffs, a video slot for extra peripherals such as a genlock

or colour enhancement, an expansion slot possibly for a hard drive or LAN (Local Area Network) and a PCMCIA card slot that allows flash ram storage.

In addition, peripherals such as a keyboard, mouse, trackball, and floppy disk drive are available to transform the CDTV from a lounge room entertainment system into a home computer.

Well, enough of the hype. This article is really aimed at the owners of both an Amiga and a CDTV, or those that may be contemplating the purchase of such a setup.

Which brings us to "connectivity". You say that you've got these two wizz-bang machines that you can play the same games on and basically do similar

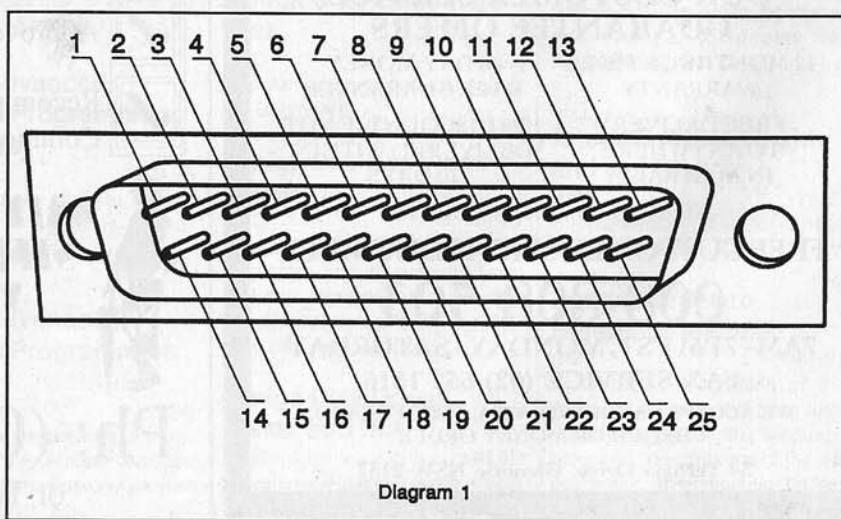
functions. But hey! One has a CD-Rom drive but you want to access the information from a CD on the other machine. And here's the catch ... you don't want to spend any more money to do it.

Well, if you got this far and have both an Amiga and a CDTV (with all those extra peripherals, did I hear you say?), then you would probably find some way to justify about \$25 more on the setup. Yes, you heard right the first time. \$25 is about what it will cost for a cable and a Public Domain disk.

For those of you that collect every bit of computer junk imaginable (yes, you know who you are) and really don't have any spare cash, then you'll probably find a salvageable cable in that huge box in the back room (underneath all those VT100 terminals that you are going to use one day).

## ***Bits You'll Need***

Okay. Before you hop in the car or don your favourite Reeboks for that trip over to Dick Smith Electronics or whatever your favourite cable outlet may be, a word of warning. Those nicely packaged data cables that are hanging on the shiny metal prong labeled "DB25M-DB25M 3 metres" with a price tag reading \$24.95, are NOT what you are after. The catch with this whole setup is that you have to modify the cable to a particular specification. If you look closely at those nice cables wrapped in





their presentation pyjamas, you might notice that that connectors are moulded, ie NOT serviceable. Bummer, eh?

So sit down a while longer and we'll go through the whole procedure step by step and that way you won't incur additional expenses and frustration.

Let's start. The program you'll require is called "Parnet". You'll find Parnet on "Fred Fish Disk 400" and you can get this from your local Public Domain outlet for not much more than the cost of the disk, or if you have a modem and access to a Bulletin Board such as the "Amiga Connection BBS", then you can download the whole disk instead.

For those uninitiated to the world of "Fred Fish Disks", these are Public Domain compilations of Amiga programs, games, utilities, etc from all over the planet the western world calls "Earth". There is a Fish Disk listing in this Annual, and advertisements for companies selling Public Domain.

So it's Fish #400. Fire it up into your favourite computer and double-click the Parnet drawer when you find it. There won't be a great deal there except for a few "Doc" files. Print them out if you have the facilities, just in case you're getting sick of this dreary tale and want to "get on with it!"

One of the "Doc" files is a specification for the cable you'll require. The picture isn't the clearest for some as it is done using keyboard characters so that it can be included into an "ascii" text file. If you can't work it out, then you can refer to the elaborate masterpiece accompanying this article.

### Cables

Now it's time to go cable shopping. As mentioned in the Parnet documentation, the easiest way to do this is to buy a DB25Male-DB25Male cable that is wired "straight through". This means that Pin 1 on one end connects with

with Pin 1 on the other end etc, etc.

The only restriction is that the connectors should be the serviceable type. That is, connectors should have screws holding each half of the shell together and can be opened. If you're really lucky, you might come across a retail source that has the type that allows you to change pin connections without soldering or re-crimping. That type of cable may cost a little more, but you'll be thankful when you find how easy it is to configure.

If, on the other hand, you're like me and searched all over the city for non-moulded cable and came up with squiddly, then you may do as I have done, and purchase all the necessary bits that make up a cable. In my case, I purchased double quantities as I had a friend in need of the same cable. That way, you can practise first and if you stuff it up, give your mate the dodgey cable.

Amiga A1000 owners will probably



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recognise that they will require a DB25Male-DB25Female cable due to their machine having a Male type connector for the Parallel Port. As you may have gathered by now, this cable connects the Amiga to the CDTV via the Parallel Port on each machine. If you have a printer already connected to this port, then stay tuned as this will be covered later.

In case a straight-through cable can't be located and you're feeling technically proficient, you can purchase the parts individually and put the whole thing together yourself. You'll need two DB25 male connectors, two connector shells and approximately three metres (or less) of stranded (at least 16 core) cable.

Make sure that the cable is the straight-through variety and NOT twisted pair. As a general rule, any cable attached to your parallel port shouldn't really exceed three metres.

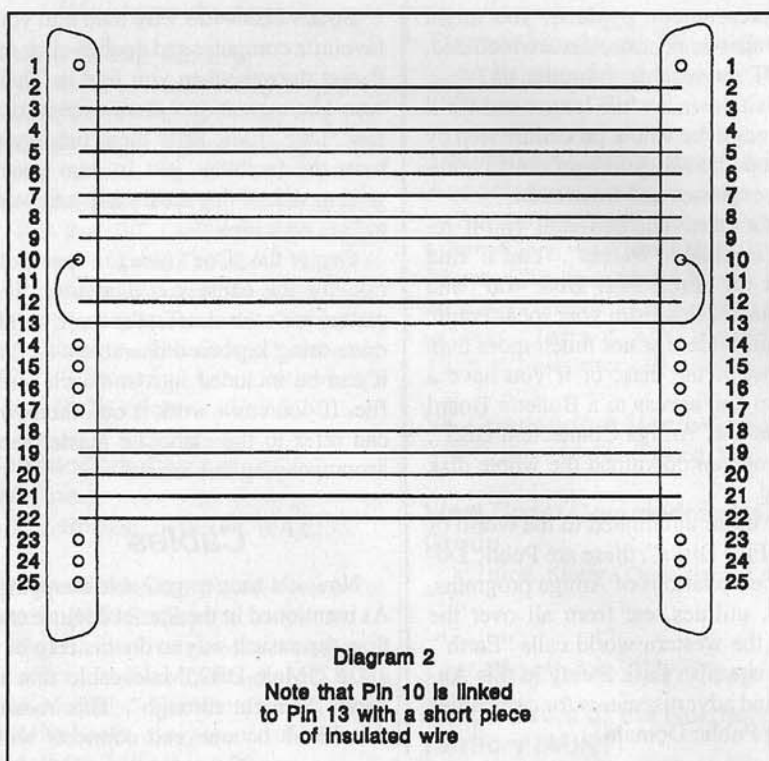
Of course a lot of you may disagree, but generally after a certain distance, there may be some degradation of the data being sent over a cable greater than the three metres. You decide.

As an alternative, you could purchase the plastic crimp-type connectors and some ribbon cable to match. This is an easier method and relates well to the accompanying diagrams, but if you're the "neat and tidy" type, then you may reject it on a cosmetic basis. If you opt for the standard round shielded cable, connectors and shells, then you'll probably find that you need to solder the cable wires to the connectors.

This is not recommended for those without previous soldering experience. The cable should have multiple wires individually coloured and you must ensure that the coloured wire that you solder to a particular pin on one connector matches the other.

Check and double check and then check again. You probably will have noticed that some of the coloured wires are duplicated with the addition of a black (or some other common coloured) stripe.

Also, the connectors have their pins labeled 1, 2, 3, etc so if you can't read these numbers, obtain a magnifying



glass. It is important that you wire this cable correctly otherwise you may cause some damage to either the Amiga or the CDTV or both. Where wires are indicated as not connected, trim these wires back so that they can't come in contact with any others.

For instance, Pin 14 on the parallel connector supplies +5 volts so don't, whatever you do, accidentally connect this particular pin to each machine.

If you have got this far and have made your cable according to the diagrams or the Parnet documentation, then you've probably found that the only real modification required is to link Pin 10 to Pin 13 on each connector. For this link, you can use a piece of any of the trimmed wires that are not required.

### Connection

Making the connection is easy. Make sure both machine are not powered and then plug the cable into the parallel port of each machine. Just as a safeguard, pull the power cable from the CDTV. A1000 owners should know which connector goes to each machine.

### Parnet

"Finally," you say. Yes, well there's a little more to do before you can access all that CD-ROM information. Firstly, you need some way for the CDTV to "boot up" with all the Parnet files in the correct areas. This is also required for the Amiga but if you have a hard drive, then this should be a relatively simply process.

After duplicating a "Workbench" boot disk, copy the "parnet.device" to the "Devs:" directory, the "netpnet-handler" to the "L:" directory and "netpnet-server" to the "C:" directory, you're probably ready to go. You may find that you have to delete a few files on that Workbench disk before the Parnet files will fit. For instance, files such as "Clock", "Say", etc can be deleted to make more space.

### Mountlist Entries

You'll need to load up your favourite text editor or wordprocessor to modify the "Unit" entries for each machine. If you have a peak at the





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# User Group Support

If you're using a Commodore computer or have just purchased one, then User Groups are one of the best places to learn how to use it. From setting the computer up to using software and choosing add-ons, such as hard drives and more memory, etc. There are many Commodore User Groups, one may be near you where you can join and meet some new friends that use the same Commodore computer as you.

Most User Groups offer Public Domain Software, Bulletin Boards, magazines and lots more so call one near you and get more out of your Commodore computer.

### Commodore 64 and Amiga Australian User Groups

For more information call the one close to you or  
call Hot Shots on 02 428 7797 Sydney, 008 805067 national  
for other User Groups not listed

#### NSW

Australia Amiga User Association Inc.  
P.O.Box 389 Penrith 2750 NSW Australia

East Coast Amiga  
P.O. Box 344 Gosford NSW 2250

Commodore Hornsby User Group  
P.O. Box 1578 Hornsby Northgate NSW 2077

#### WA

Perth Commodore User Group  
22 Marriot Way Morley WA. 6062

Commodore Computer Club  
P.O. Box 146 Willetton WA 6155

#### Qld

Brisbane Amiga User Group  
Lot 4 Lindsay Rd Morayfield QLD 4506

Commodore Computer User Group Inc.  
P.O. Box 274 Springwood QLD 4127

Gladstone Amiga User Group  
P.O. Box 1390 Gladstone QLD 4680

#### SA

South Australia User Group  
P.O. Box 427 North Adelaide SA 5006

Amiga User Group of SA  
P.O.Box 10131 Adelaide SA. 5001



#### Vic.

Amiga User Group Inc.  
P.O. Box 684E Melbourne Vic 3001

Melbourne Commodore Computer Club  
P.O Box 177 Box Hill Vic. 3128

Balaclava Use Group  
3/2 Almond Ave. Brooklyn Vic. 3025

#### ACT

CAUSE Computer Club  
P.O Box 596 Canberra ACT 2601

Commodore User Group Act  
P.O. Box 409 Curtin ACT 2605

#### NT

Amiga User of NT  
P.O. Box 38952 Winnellie NT 0821

#### Tas

Burnie Amiga User Group  
P.O. Box 221 Burnie TAS. 7320

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If you would like to join or start up a User Group then please call Hot Shots on 02 428 7795

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**FREE  
ADVICE  
&  
COMPUTER  
SUPPORT**

# AMIGA - MS-DOS

**TOLL  
FREE**

**Ph. 008 805067 National**

Ph. 428 7666 Sydney

Ph. 02 428 7797 Fax

## SIMPLY PHONE AND TAKE ADVANTAGE OF:

- Set up and installation advice and assistance on Amiga and MS-Dos products.
- Software/Hardware information.
- Latest news and information from the World of Amiga.
- Local phone call cost from anywhere in Australia.
- Add-on options for your Computer
- All with friendly helpful advice.

**FOR FURTHER INFORMATION ON HOT SHOTS CALL**

\* Free membership with the purchase of any Commodore branded product

## HOT SHOTS MEMBERSHIP APPLICATION FORM

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Suburb: \_\_\_\_\_ State: \_\_\_\_\_ PostCode: \_\_\_\_\_

Ph. No: \_\_\_\_\_ Male ☐ Female ☐

Age: Upto 10 ☐ 11 to 16 ☐ 17 to 25 ☐

26 to 34 ☐ 35 to 49 ☐ Over 50 ☐

Is your Commodore Computer used mainly for

Business: ☐ Pleasure: ☐

### Hot Shots Computer Support

Free membership with the purchase of any Commodore branded product or a joining fee of \$25.00. Annual Subscription \$25.00

Yes, I would like to become a member of Hot Shots Computer Support I enclose my cheque for \$25.00 for membership.

I authorise Commodore Computers to debit my

☐ Bankcard ☐ MasterCard ☐ VisaCard ☐ American Express  
account for the amount of \$25.00

My Card number is

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

Send to:

Hot Shots Computer Support  
67 Mars Road Lane Cove, NSW, 2066

## COMPUTER DETAILS

Model: \_\_\_\_\_ Memory: \_\_\_\_\_

Hard Drive Size: \_\_\_\_\_ Speed: \_\_\_\_\_

Operation System: \_\_\_\_\_ Serial No: \_\_\_\_\_

Monitor Model: \_\_\_\_\_

Printer Model: \_\_\_\_\_

Add-ons: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## DEALER DETAILS

Dealer Name: \_\_\_\_\_

Dealer Suburb: \_\_\_\_\_

Dealer State: \_\_\_\_\_

Dealer Phone: \_\_\_\_\_

Please supply copy of receipt of purchase



# User Group List

All over Australia, both expert and novice Amiga users have banded together to form user groups. At regular meetings they exchange information, ideas and show off their Amigas.

Many of these groups offer regular tutorial sessions, club meetings, newsletters and access to the club bulletin board system.

If we've missed your user group, please post the details to ACAR, PO Box 288, Gladesville. We'll make sure it's included as an update in the next issue of *Australian Commodore and Amiga Review*.

## NSW

### Albury Wodonga Commodore Users Group

P.O. Box 1014, Albury, NSW 2640.

### Amiga Burwood User Group

P.O. Box 308, Burwood, NSW 2134.

### Armidaale Amiga User Group

P.O. Box 375, Armidaale, NSW 2350.  
Secretary - Bob Estreich.

### Australian Amiga Users Association

P.O. Box 389, Penrith, NSW 2750.  
President - Gary Colligan (02) 627 1201,  
Secretary/Vice President - Bob Bliss (02) 670 5659. AmiOz BBS (02) 627 4442  
Online 24hrs 7 days A SkyPix Graphi BBS.

### Coffs Harbour Amiga Owners Society (CHAOS)

26 King Street, Coffs Harbour 2450.  
Contact - John Moore, 3 Kotuku Street, Coffs Harbour (066) 511 376, Chris Wood, 26 King Street, Coffs Harbour (066) 523 680. Meetings - First Tuesday in each month at 7.30 pm except in school holidays at Toormina High School, near Coffs Harbour.

### Commodore Hornsby Users Group

P.O. Box 1578, Hornsby, Northgate,

NSW 2077. President - Alan Hall (02) 476 4929, Secretary - Robyn Sparrowhawk (02) 871 3409. Meetings - fourth Wednesday of each month (not December), monthly workshops second Wednesday of each month (not January). Club BBS (02) 484 2874 24 hrs. Newsletter - Peripheral.

### Compu-Tech Computer Club

15 Hazelton Grove, Gateshead, NSW 2290.

### Cooma Amiga Users Group

P.O. Box 409, Cooma, NSW 2630.

### East Coast Amiga

P.O. Box 344, Gosford, NSW 2250.  
Meeting Venue: Niagara Park Public School Library. Meeting Nights: second and fourth Friday of each month 7.30 pm.

### Macquarie Fields User Group

32 Rosewood Drive, Macquarie Fields, NSW 2564.

### Macquarie University Commodore Amiga Society (MUCAS)

President - Amos Bannister, Vice President - John Paul Lonie, Secretary - Murray Gilbert. Official BBS - Plummet BBS (02) 949 1224.

### Muswellbrook Commodore Computer Club

Chairman - G. Simpson (065) 425 560, Secretary - Jan Hickey (065) 433 740. Meetings - Upper Hunter Citizens and Police Youth Centre, Carl Street, Muswellbrook on the second Saturday of each month at 7.30 pm.

### Newcastle Commodore U. G.

4/13 Smart Street, Charlestown NSW 2290. President - George Morrison (049) 57 4271, Secretary - Sue Slack (049) 47 1118 A.H. Meetings - 7.00 p.m. 4th Tuesday each month at Charlestown Public Library, Ridley Street, Charlestown, Newcastle. Newsletter - VICTIM.

### Penrith Commodore User Group

42 Alpine Circuit, St. Clair, NSW 2759.  
Meetings - 3rd Wednesday of each month at the Victoria Street Community Cottage, Victoria Street, Werrington from 7.30p.m. President - Gary Bull, Secretary - Elena Denton. Telephone - (02) 670 3207 or (02) 623 4258 after 5p.m.

### RAAF Richmond Computer Club

C/- CTS, SSSRIC, RAAF Base, Richmond, NSW 2755.

### Singleton Amiga Users Group

22 Falkiner Crescent, Singleton Heights NSW 2330. Chairman - Ken Gate, Treasurer - Peter Smith, Secretary - Bob Aitchison. Meetings - 2nd Wednesday each month at 7pm in the staff room of the Singleton Heights Public School.

### Southern Sydney Commodore User Group

P.O. Box 375, Padstow, NSW 2019.  
Telephone (02) 773 9666, Fax (02) 774 1165. Meetings - 8pm Scouts Hall, Connelly Street, Penshurst every two weeks on Monday evening.

### Sydcom

GPO Box 1542, Sydney, NSW 2001.  
Meetings - second Friday of each month, Macquarie Boys High School, James Ruse Drive, Rydalmere at 7.30 p.m.

### Tuggerah Lakes Commodore Users Group

P.O. Box 659, Toukley, NSW 2263.  
Meeting Venue: Wyong High School Library, Alison Road, Wyong. Meeting Nights: First and Third Thursday of each month at 8pm. Contact: 043-922 567 Bill.

### Wollongong Amiga User Group

42 Heaslip St, Coniston, NSW 2500.

## ACT

### Canberra Amiga Users Society Incorporated

P.O. Box 596, Canberra ACT 2601.

Director - Chris Townley, Vice Director - Gordon Owtrim, Secretary - Tony Hayman, Treasurer - Terry Sullivan. Meetings - 2nd Thursday of each month at Canberra Workers' Club, Childers Street, Civic. Beginners group 7 pm, main meeting 8 pm. Details of the date and expected topic to be presented will be advertised in the Public Notices in the *Canberra Times* on the first Saturday of each month and in the *Canberra Times* "Fridge Door" the week of the meeting. BBS - Online 24hrs (06) 255 1469. Newsletter - beCAUS.

**Commodore U. G. ACT Inc**  
P.O. Box 409, Curtin, ACT 2605.

### Victoria

**Amiga Users Group (Vic) Inc**  
P.O. Box 48, Boronia, Vic 3155.

**Balaclava User Group**  
3/2 Almond Ave, Brooklyn Vic 3025.

**Border District Commodore User Group**  
P.O. Box 536, Wodonga, Vic 3090.

**Commodore U. G. (VIC) Inc.**  
1 Argyle Street, Gladstone, Vic 3140.

**Compu-U-Pals**  
C/- M.D.A., P.O. Box 29, Knoxfield Vic 3180. Organisation which helps people who can't get to User Group meetings or might live in areas where there is no support for their computer, or for other reasons would prefer to contact other friendly Amiga and C64 users by mail. Newsletter - Disk++Link.

**CRI Commodore User Group**  
President - Rod Mason (03) 306 4063, Membership Secretary - Steve Riepsamen (03) 314 5677. Meetings - every 3rd Sunday, VRI Hall, Stewart Street, Braybrook (behind Squash Courts), 7.30 p.m. 130 members.

**Dingly Commodore User Group**  
1 Hazelwood Close, Dingley, Vic 3172.

**Eastern Suburbs Eighty U. G.**  
17 Douglas Ave, Box Hill South, Vic 3128.

**Knoxcom Incorporated**  
P.O. Box 2000, Ferntree Gulley, Vic 3156.

**Latrobe Valley Amiga User Group**  
President - Peter Pildre (051) 27 6896, Secretary - Dave Andrews (051) 34 8713. Meetings - last Friday of each month at 7.30 pm at the Traralgon Ambulance Office at 1 Campbell Street, Traralgon.

**Melbourne Commodore Computer Club**  
P.O. Box 177, Box Hill, Vic 3128.

**Moe Commodore Users Group**  
20 Edward Cres, Trafalgar, Vic 3824.

**Shepparton Commodore Computer Club**  
Meetings - fortnightly on Sunday night 7.30 - 9.00 p.m. at the Guide Hall, Cnr of Nixon & Skene Street, Shepparton. Secretary - Val Hutchinson.

**Stawell Commodore User Group**  
P.O. Box 299, Stawell, Vic 3380.

**VRI Commodore User Group**  
P.O. Box 253, Glenroy, Vic 3040.

**Waverley Commodore Users Group**  
1 Argyle Street Chadstone Vic 3148. President - Geoff Travers.

**Wangaratta Amiga Group**  
P.O. Box 97, Wangaratta Vic 3677. President - Bruce Galloway (057) 265 311, Secretary - Murray Foye (057) 214 310. Meetings - first Wednesday of each month at Chisholm St. Primary School, Wangaratta at 7.30 p.m. Newsletter - Chinwag.

**Yarra Valley Commodore User Group**  
P.O. Box 170, Lilydale, Vic 3140.

### Queensland

**Australian Amiga User Group**  
P.O. Box 1386, Toowoomba, Qld 4350. Telephone - (076) 932 198 Vice President. Meetings - 2nd Saturday of each

month. 130 Members. Publication - Australian Amiga.

**Brisbane Amiga User Group Inc.**  
6 Truman Crescent, Slacks Creek Qld, 4127. Secretary - Ben Campbell. (W PH: 07 3602708). Advertising rates for their newsletter are: A5 (Full page) \$20.00 per issue. (\$200 for 11 issues) A6 (Half page) \$10.00 per issue. (\$100 for 11 issues). Meetings are held every first Sunday of the month. Hall behind Polish Church, Cintra Road, Bowen Hills. Formal meetings begin 6.30 pm and workshops held from 3.00 pm.

**Bundaberg Commodore Computer User Group**  
P.O. Box 1713, Bundaberg, Qld 4670. President - Jan Kretschmer, Vice President - Robert Cullen. Meetings - West State School Library. General meetings start at 10.30 a.m. and Ordinary meetings at 12.30 p.m., ring Bundaberg 52 7098 for more information.

**Commodore Computer Users Group Inc (CCUG Inc)**  
P.O. Box 274, Springwood Qld 4127. Meetings - Held first Tuesday of each month at the Bardon Professional Development Centre. Meetings start at 8 pm. President - Phil Guernsey ph (07) 378 9756, Secretary - Gordon Wright ph (07) 299 7709. BBS - (07) 808 7694 & (07) 808 8823. Sysop - Graeme Darroch (07) 209 1999. BBS is part of Fido Network (Node No 3:640/304) and can be accessed by members at 300, 1200/75, 1200, 2400 and 9600bps, using 8 data bits, 1 stop bit and no parity. Newsletter - Cursor. Advertising rates: \$25 for one-half A5 page single placement (\$40 full page) which reaches a mailing list of 500 addresses.

**Commodore Amiga Users Group Mackay**  
P.O. Box 422, Mackay, Qld 4740. Meetings - every fourth and third Wednesday at Mackay & District Education Centre, North Mackay 7.00 p.m. Secretary - Trevor Johnston (079) 59 8417. Contact - Keith Varnham (079) 53 3100.

**Commodore User Group of Australia**  
P.O. Box 166, Pittsworth, Qld 4350.



### Gladstone Amiga Users Group

P.O. Box 1390, Gladstone, Qld 4600.

### Ingham User Group

Chairman - Stephen Colclough, 4 Philp Street, Ingham (077) 763 436, Librarian - Martin Lynch, 2 Borello Street, Ingham, Qld 4850 (077) 762 243. Meetings - every 2nd Sunday afternoon at a location to be advised in monthly newsletter following the last meeting, at 2.00 pm to 5.00 pm.

### Ipswich Commodore User Group

P.O. Box 252, Ipswich, Qld 4305.

### Northern Amiga User Group

P.O. Box 1722, Mount Isa Qld 4825. President - Marc Katona, Vice President - Peter Thomas. Meetings - second Sunday of each month at 2.30 pm at Norsoft in Hopkins Arcade, West Street. Newsletter - Newsletter of the Northern Amiga User Group.

## South Australia

### Amiga User Group of SA

P.O. Box 10131, Adelaide, SA 5001.

### Barossa Users Group

RSD Box 1 Daveyston, Greenock, SA 5300.

### S.A.C.C.U.G.

P.O. Box 427, North Adelaide 5006. Meetings - 1st & 3rd Monday of the month at 7.30 p.m. at North Adelaide Primary School, Tynte Street, North Adelaide (next to the North Adelaide Fire Station). \$1.00 per person for hall hire. President - Glenn, Secretary - Laurie. Newsletter - Bits and Bytes.

### Southern Districts Commodore Users Group

1 Birubi Wy, Morphett Vale, SA 5162.

### West Lakes Amiga Users Group

Ring Tom: 49 3690 or Trevor: 248 3365. Meetings are once a fortnight on Wednesday at 7.30 pm at West Lakes Primary School, Edwin Street.

### Whyalla Commodore U. G.

P.O. Box 2367, Whyalla (Norrie), SA 5608.

## Western Australia

### Amiga Group Albany

26 Boronia Avenue, Albany WA 6330. Contact Dave Clements (098) 411 435. Meetings - every second Monday.

### Amiga Users' Group of WA (Inc)

P.O. Box 595, Cloverdale WA 6105. Meetings - Curtin University, Bentley, 7.30 p.m. General Meeting - 2nd Tuesday every month. Tutorials - Every Friday. President - Bill Sharpe-Smith (09) 362 3539, Secretary - Arthur Rutland (09) 279 2778. Newsletter - AUGMENT.

### Commodore Computer Club WA (Inc.)

P.O. Box 146, Willetton, WA 6155.

### Commodore Computer Users Group (Nth Subs)

234 Balcatta Road, Gwelup, WA 6021. President - Adrian Liebrechts (09) 279 7383. Meetings - The Herb Graham Centre, Mirrabooka, every second and fourth Wednesday 7.30 pm to 9.30 pm.

### Hedland Commodore User Group

5a Baler Close, South Hedland, WA 6722.

### Perth Commodore & Amiga User Group

22 Marriot Way, Morley WA 6062. Contact - John Roe (09) 276 6287. Meetings - every Thursday night at 7pm - 9.30 p.m. at the Les Hansman Centre, 246 Walter Road, Morley (opp Coventrys). Postal and Repair Service Centre 22 Marriot Way, Morley 6062 (09) 276 6287.

## Tasmania

### Burnie Commodore Amiga Users Group

P.O. Box 471 Burnie 7320. President - Clyde McLennen, Vice President - John West, Secretary - Wayne Marks. Meetings - Mooreville Road campus of TAFE, 2nd Tuesday each month except school holidays, workshops and courses notified at meets and in the newsletter.

Newsletter - B.C.A.U.G. News.

### Tasmanian Amiga Users Group

6A Hamilton Street, Launceston, TAS 7250.

### Tasmanian Commodore Users Association

P.O. Box 673 GPO, Hobart. President - Ken Silver, Vice President - Wayne Moore, Club Secretary - Steven Cook. Meetings - Glenorchy Derwent Regional Library, Terry Street, Glenorchy, 7.30p.m. Newsletter - Discourse.

### VK Commodore Users Group

P.O. Box 168, Launceston, TAS 7200.

### West Coast Commodore Users Group

8 Hurst Street, Queenstown, TAS 7467.

## Northern Territory

### Amiga Users of the Northern Territory (AUNT)

P.O. Box 40401, Casuarina NT 0811. Meetings - 2nd Wednesday of each month at the Moil Primary School staffroom from 7.30 pm.

## New Zealand

### Amiga User Group of New Zealand

P.O. Box 35107, Christchurch, NZ.

### Christchurch Commodore User Group

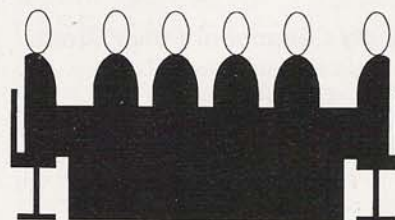
P.O. Box 4665, Christchurch, NZ.

### New Zealand Amiga User Group

P.O. Box 85094, Sunnynook, Auckland, NZ, NZ10.

### NZ Micro Computer Club

P.O. Box 6210, Auckland, NZ.





# 1993 Australian Amiga Product Guide

Each year we update our database of Amiga products available from resellers and distributors down under. The result is our Amiga product guide. The information is based on price lists supplied by distributors and retailers who responded to our requests for information. To these people, thank you for your support.

Unfortunately, some did not respond. Also, some distributors do not set recommended retail prices, so we applied an across the range formula to their range to create ball park retail prices. We suggest you check with your local retailer for accurate pricing, as they will vary throughout the year and from one company to the next.

Where a product is available from several sources, we have tried to list the cheapest. However, due to the amount of information involved and the time frame in which it must be prepared, we cannot guarantee the accuracy of this information. These details often change faster than we can keep up.

The guide is just that - a guide to what's out there. Chances are if it appears here, you can get it somewhere locally. And that's the main thing!

Names and addresses of distributors are at the end of the Product Guide.

## ACCOUNTING

### Desktop Budget

DAT 95.00  
This icon based program establishes monthly payments, has a built-in calculator, provides month-end reconciliations and year-end rollovers, and quickly generates detailed statements

### Easyledgers

DAT 395.00  
Fully integrated accounting system, sales, purchases, inventory and general ledger. Familiar bookkeeping interface. Point and click.

### Easyledgers Service Industry Accounting

DAT 549.00  
Uses basic format of familiar bookkeeping, organising your information into computerised "books". Easy to learn. Includes Ledger Book, Purchase Book, Sales and Inventory Book PLUS Job Book. Requires one megabyte.

### Electronic Cashbook & Job Costing

CMT 93.10  
Handles 5 separate banking sections, 15 Periodical Payments, 245 User Dissections, Audit Trial Facility, Manual/Batch Reconciliations.

### Electronic Debtors

CMT CALL  
Accounts Receivable package,

ported from MS-DOS environment. Australian designed.

### Home Accounts

PAC 89.95  
60 expenditure/10 income accounts, detailed statements for any range of months, monthly reports, budget cash flow forecasts, actual/budget comparison and more.

### Personal Finance Manager Plus

CMT CALL  
Easy-to-use way of looking after bank account. Workbench interfact allows transactions to be entered or altered, number of entries limited only by memory. Includes auto balancing, account print option & more.

### System 3

PAC 129.00

### System 3E

PAC 149.00

## ANIMATION

### 3D Construction Kit

CMT 121.03  
Create your own 3D world. Easy to use interface. Entertainment.

### 3D Professional

CMT 371.47  
Fast, 3D polygonal rendering and animation. Also handles fractal landscapes, trees and clouds.

### 3D Text Animator

CMT 74.48

### Animagic

CMT 93.10  
Editing program for ANIM files to produce video style special effects, fades, wipes, dissolves, twists, turns, zooms, etc.

### Animation Studio 3D

CMT CALL

### Animator/Images Aegis

CMT 93.10  
Bitmap animator with 'morph' tweening. The original 2D animator, bundled with Aegis Images. Tweening, cut and paste screens, only NTSC.

### Deluxe Photolab

CMT 90.44  
HAM painting and image processing. Handles poster size images. Three programs in one.

### Elan Performer 2.0

CMT CALL  
Control of imagery and animation in paint/animation programs using RIFF and ANIM formats. Assign imagery/animation to keys, call to screen with a key-stroke.

### Imagine V2.0

MVB 299.00  
24-bit rendering techniques which allow Amiga owners to compete in the world of professional animations. Next generation in

rendering animation systems for the Amiga.

### Interior Design Disk - Sculpt

CMT CALL  
3D object library for use with Sculpt/Animate.

### Interior Design Disk - Videoscape

CMT CALL

### Modeller 3D

CMT CALL  
3D object editor - can be used with Sculpt 3D, Videoscape 3D.

### Morph Plus

MVB CALL  
Integrated with The Art Department. Full motion image morphing and processing. Expandable using external modules.

### Morphus for Imagine

MVB 115.00  
Mathematically manipulate any Imagine object in a host of different ways. Morph one object to another with complete continuity. Morph a plane into a torus with a few simple commands. Water rippling, and more.

### Movie Clips

DAT 49.95  
Collection of MovieSetter animation sequences, backgrounds, props and sounds.



## Movie Setter

DAT 95.00  
WYSIWYG animation package. Offers full palette control for up to 32 colours, colour cycling, speeds up to 60 frames p/s.

## Pagerender 3D

CMT CALL  
3D static image rendering and 3D animation. Also compatible with PageFlipper Plus FX. AREXX support.

## Pixel 3D V2.0

CMT 185.27  
Convert between many popular 3D file formats, as well as extruding and tracing bitmapped images to create 3D models. Ideal add on for all 3D animation programs such as Imagine.

## Promotion

CMT 93.10  
Create object and camera paths for Videoscape animations using simple staging directions and point and click interface. Requires VideoScape 3D.

## Real 3D - 1.4 Upgrade

CCS 499.00

## Real 3D 1.3 - 1.4 Upgrade

CCS 130.00

## Real 3D 1.4 - Beginner

CCS 299.00

## Real 3D Classic V1.42

CCS 299.00

## Real 3D Classic Upgrades To V2.0

CCS 1200.00

## Real 3D Turbo/Pro

CMT 903.07

## Real 3D Turbo/Pro - Fusion Forty (68040)

CCS 779.00

## Real 3D Turbo/Pro VD2001/VD2020 Version

CCS 779.00

## Real 3D V1.4 Upgrade to V2.0

CCS 799.00

## Real 3D V2.0

CCS 1399.00  
Collision detection, object behaviour patterns, gravity, super fast ray tracing, user configurable interface, programming language, internally multitasking. Many more features.

## Scenery Animator

CMT 148.03  
Animate camera views over DEM landscapes. Various rendering modes. Includes trees, clouds (optionally animated), water with ripples, sky with stars and more.

## Scenery Animator 2

MVB 99.95

## Sculpt Animate 4D

CMT CALL  
Objects can be created, joined together, rotated, duplicated, expanded to produce a complex piece.

# BOOKS

## Amiga 3D Graphics Programming in Basic

PAC 49.95  
Details the techniques and algorithms used in generating 3D graphics from AmigaBASIC.

## Amiga 3D Graphics Prog. in Basic Disk

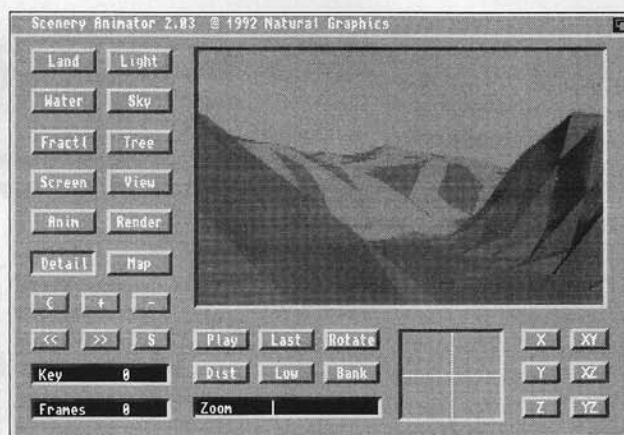
PAC 19.95  
Supplementary disk to Amiga 3D Graphics Programming in BASIC.

## Amiga Advanced Systems Programmers Guide Disk

PAC 19.95  
Supplementary disk to Amiga Advanced Systems Programmers Guide.

## Amiga Advanced Systems Programmers Guide

PAC 69.95  
Second volume detailing the "internals" of the Amiga. Includes the latest information on Kickstart and Workbench 1.3.



Scenery Animator

## Amiga C for Advanced Programmers

PAC 69.95  
How compilers/assemblers/linkers work, designing/programming user friendly interfaces with intuition, combining assembly language and C codes. Includes source.

## Amiga C for Advanced Programmers Disk

PAC 19.95  
Supplementary disk for Amiga C for Advanced Programmers.

## Amiga C for Beginners

PAC 49.95  
Explains C in plain English using examples. Includes beginners overview, special features of C, important routines, input/output in C, tricks and tips and more.

## Amiga C for Beginners Disk

PAC 19.95  
Supplementary disk for Amiga C for Beginners.

## Amiga Desktop Video Guide

PAC 49.95  
Abacus. Step-by-step guide for beginners and advanced artists. Includes eight pages of full colour illustrations and list of products and manufacturers.

## Amiga Disk Drives Inside and Out

PAC 49.95  
All you need to know about Amiga disk drives.

## Amiga Disk Drives Inside and Out Disk

PAC 19.95  
Supplementary disk to Amiga Disk Drives Inside & Out.

## Amiga DOS Manual 3rd Edition

CMT 51.21

## Amiga for Beginners

PAC 39.95  
Instruction to intuition, the mouse, windows, the CLI, and Amiga BASIC.

## Amiga Graphics Inside and Out

PAC 49.95  
A comprehensive guide to understanding and using Amiga graphics. Shows simply and in plain English how to access and harness the graphic power of your Amiga. Examples for AmigaBASIC and C.

## Amiga Graphics Inside and Out Disk

PAC 19.95  
Supplementary disk for Amiga Graphics Inside & Out.

## Amiga Hardware Reference Manual

CMT 51.21  
An in-depth description of the Amiga's hardware including tutorial on writing Assembly language programs, descriptions of the coprocessor, the playfield sprites and blitter.

**Amiga Interface Style Guide**

CMT 46.55

**Amiga Machine Language**

 PAC 49.95  
 Introduction to 68000 assembler machine language programming, covers 68000 micro-processor address modes and architecture, speech and sound.

**Amiga Machine Language Disk**

 PAC 19.95  
 Supplementary disk to Amiga Machine Language.

**Amiga More Tricks & Tips**

 PAC 49.95  
 A compilation of various hints and tips for Workbench, CLI and especially BASIC users.

**Amiga More Tricks & Tips Disk**

 PAC 19.95  
 Supplementary disk to Amiga More Tricks & Tips.

**Amiga Multimedia Workbook**

CMT 65.17

**Amiga Official DOS 2.0 Companion**

CMT 51.21

**Amiga Printers Inside & Out**

 PAC 69.95  
 Complete guide to using and adapting various printer drivers using preferences and ensuring your printer is set-up correctly. Information and utility to create your own custom drivers.

**Amiga ROM Kernal Reference**

 CMT 65.17  
 Essential for the serious C programmer. Includes and Autodocs. Libraries and Devices. Two volumes.

**Amiga System Programmers Guide**

 PAC 69.95  
 Covers EXEC structure, I/O requests, interrupts and resource management, multitasking functions.

**Amiga System Programmers Guide Disk**

 PAC 19.95  
 Supplementary disk to Amiga System Programmers Guide.

**Amiga Tricks & Tips**

 PAC 49.95  
 Tips on accessing libraries from BASIC, custom character sets, AmigaDOS, sound, important 68000 memory locations.

**Amiga Tricks & Tips Disk**

 PAC 19.95  
 Supplementary disk to Amiga Tricks & Tips.

**Amiga Understanding Imagine**

CMT 60.52

**Amiga User Interface Style Guide**

CMT CALL

**Amiga Vision Handbook**

CMT CALL

**Amiga Visionary Handbook**

CMT 55.86

**AmigaBASIC Inside & Out Disk**

 PAC 19.95  
 Supplementary disk to AmigaBASIC Inside & Out Book.

**AmigaBASIC Inside & Out**

 PAC 49.95  
 Tutorial on Amiga BASIC, shows in great detail all BASIC commands with plenty of example programs.

**AmigaDOS Inside & Out**

 PAC 49.95  
 Internal design to practical applications of AmigaDOS. Includes reference section, tasks and handling, DOS editors ED and EDIT, create and use script files.

**AmigaDOS Inside & Out Disk**

 PAC 19.95  
 Supplementary disk to AmigaDOS Inside & Out.

**AmigaDOS Manual**

 CMT CALL  
 Guide to the CLI. Essential for the serious user. Third edition

**AmigaDOS Quick Reference Guide**

 PAC 19.95  
 Details on AmigaDOS commands covering Versions 1.2 and 1.3.

**Bards Tale II Clue Book**

CMT 18.62

**Bards Tale III Clue Book**

CMT 18.62

**Best of Amiga Tricks & Tips**

 PAC 79.95  
 The cream of programming tricks and tips have been assembled into one book covering DOS, BASIC and more.

**Buck Rogers II Clue Book**

CMT 18.62

**Computer Adventure Games - Hints and Tips**

 GPP \$10  
 The Second Adventurers Realm Hint Book. How to solve many adventure games.

**Computer Games Guide Hints, Tips & Pokes**

 PAC 29.95  
 Information on over 400 games and adventures and now includes complete solutions to 40 latest releases.

**Dark Queen Of Krynn Clue Book**

CMT 22.61

**Eye of the Beholder II Clue Book**

CMT 22.61

**Falcon 3.0 Combat Hint Book**

CMT 37.24

**Gateway to the Savage Frontier Hint Book**

CMT 18.62

**GeoWorks: 2nd Book of**

CMT CALL

**GeoWorks: Desktop Publishing Ensemble**

CMT 41.90

**GeoWorks: Using GeoWorks Pro**

CMT 48.36

**Kids and the Amiga**

 CMT CALL  
 Includes over 30 sections with instructional notes. Has lessons, assignments and lively illustrations.

**Kids and the Amiga**

 CMT 37.24  
 Second Edition.

**Kings Quest Companion**

 CMT 27.93  
 Inc. KQ V.

**Lord of the Rings Clue Book**

CMT 9.31

**Lord of the Rings 2 Clue Book**

CMT 22.61

*Computer Adventure Games Hints and Tips*




## Making Music on the Amiga

PAC 69.95  
Shows how to take advantage of the musical capability of the Amiga and how to make your own MIDI interface. Includes disk with music and utilities, and disk with music examples.

## Might and Magic III Clue Book

CMT 22.61

## Pools of Darkness Clue Book

CMT 18.62

## PowerMonger Clue Book

CMT 18.62

## Prophecy of the Shadow Clue Book

CMT 22.61

## Quest for Clues 2

CMT 33.25

## Quest for Clues 3

CMT 33.25

## Quest for Clues 4

CMT 33.25

## Quest for Clues 5: Book of Orbs

CMT 37.24

## Secret of the Silver Blades Clue Book

CMT 18.62

## Shadow Sorcerer Clue Book

CMT 18.62

## Sim City Official Handbook

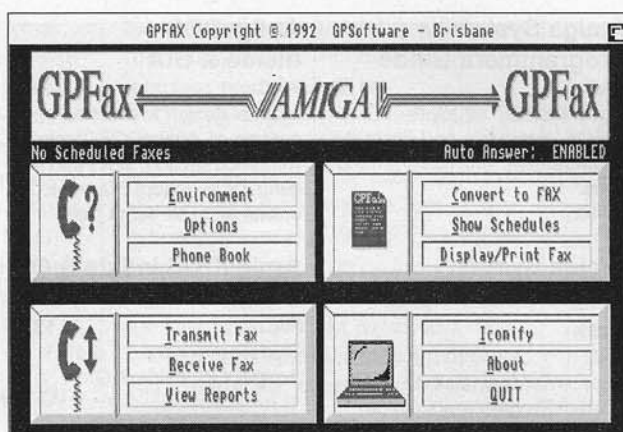
CMT 30.59

## The Amiga Companion

CMT CALL  
Comprehensive guide to AmigaDOS and the CLI.

## Ultima Avatar Adventures

CMT 27.93



GPFax

## Ultima VI Clue Book

CMT 22.61

## Ultima VII Clue Book

CMT 27.93

## Ultima: The Official Book

CMT CALL

## Wing Commander Strategy

CMT 33.25

## CAD

### Board Master

CMT CALL  
Printed circuit board design.

### CAPS Send Station

CCS 1359.00

### CAPS Work Station

CCS 919.00

### Draw 2000

CMT 185.27  
Structured drawing package. Latest version of Aegis medium level design program. Export files to Modeller 3D. Slow in operation with a large drawing.

### Homebuilders CAD

CMT 185.27  
Non-metric, 3D design and estimating for home and small commercial construction. Good for contractors, owner/builders, set design, office design, farm design, real estate brokers, architects and cabinet makers.

## IntroCAD

CMT 65.17  
Introductory CAD system. User friendly, object oriented CAD program. Output laser-like results on dot matrix printers.

## IntroCAD Plus

CMT 120.10  
More powerful than IntroCAD. Adds layers, hatching, AREXX support and more drawing tools. User-definable keyboard equivalents.

## Ultra Design

CMT 231.82  
Auto-dimensioning professional CAD system. Features paste-up module for plotting and scaling single or multiple drawings for output over one or several pages.

## COMMUNICATIONS

### A-Talk III

MVB 69.95  
For communications and terminal emulation on Amiga. Includes X, Y, ZMODEM, KERMIT, and ASCII protocols. Script language with over 40 commands, unattended mode 60 entry phone directory, quick menu and more.

### Baud Bandit 2400 Modem

CMT CALL

### Baud Bandit 9600 Modem

CMT CALL

## GP Term

GPS 99.00  
Full ANSI and Videotex communications software for all Amigas. Supports Amiga, IBM, VT100/103 terminal emulations. File transfer protocols Zmodem, Ymodem, Xmodem, Kermit and Videotex-CET.

## GPFax

GPS 130.00  
GPFax is a full send and receive FAX package providing the user with more options than available on most fax machines.

## Mega 1234

AVT 399.00  
V21/22/23/22Bis. Auto-dial, auto-answer, auto-disconnect.

## Megaplug 1234MMP

ADC 449.00  
V21/22/22bis. MMP4 error correction, MMP5 data compression, auto-dial, auto-answer and auto-disconnect.

## Megaplug V32 MMP

ADC 799.00  
V21/22/23/22 Bis, also V32 9600 BPS. Auto-dial, auto-answer and auto-disconnect, with MMP4 error correction and MMP5 data compression.

## On-Line! Platinum

CMT 74.48  
Terminal program allowing interaction of micros and mainframes to enable users to exchange information, news and data.

## DATABASE

### Amibase Pro VIII

AUA 35.00

### Contact 2.0 with CalcKey

DTU 89.00  
Personal database manager. Dials phone, prints labels including to PostScript, inserts data in document file of active application. Load/save data files, autosave, Demo disk available. CalcKey 1.3 included.

**Data Retrieve**

PAC 99.00  
Use keyboard short-cuts or pull-down menus, uses screen masks with text styles, fonts, colours and graphics.

**Infofile**

DAT 99.95  
Amiga information management system. Store, sort and retrieve sound, graphics and text. Requires Kickstart 1.2 or 1.3 and one megabyte.

**Mailshot Plus**

PAC 69.95  
WYSIWYG, fully menu driven, detection of duplicates, main file and subset, 'Marker' facility for searching/ sorting, conditional searching, merge file facility.

**Organize**

CMT 37.24  
Shrinkwrapped.

**Organize!**

CMT 55.86  
Create a custom filing system for organizing business records, contact lists. Up to 128 fields per form and 254 bytes per field. Boxed.

**Professional Dataretrieve**

PAC 199.00  
Featuring up to eight files that can be edited simultaneously. Create or edit on-screen masks for one or many files.

**Superbase Personal 2 + Superplan**

CMT CALL  
Full multi-file relational power, VCR style control panel, three ways of viewing data, set-up and change file definitions quickly, include images/sound/text.

**Superbase Professional 4.0 V1.2**

MVB 289.00  
Database management language, over 250 high level commands. Report generator, Intelligent Forms Editor, extensive programmable telecommunications facilities.

**Who! What! Where! When!**

DAT 79.95  
Provides a phone directory, appointment book, things to do list, alarm clock and calendar. Event based - ideal for sales people, or anyone who has a lot of appointments and contacts to look after.

**DESKTOP PUBLISHING****Amiga Hand Scanner**

MCP 399.95  
Hand held 400 DPI black and white scanner. Includes touchup software.

**Art Expression**

MVB CALL  
Full featured outline illustration program. Create complex, artistic illustrations that can be scaled and used at any size without quality loss.

**Art Gallery I and II**

DAT 49.95  
Additional graphics libraries for Printmaster Plus.

**CAL Calender Maker**

CMT 55.86  
Create custom calendars. Print any size from wallet to wall. Accepts fonts or uses library provided. Set your own starting dates, accepts information from applications like NAG, plus via AREXX.

**Calligrapher**

CMT CALL  
Font editor - includes ColorFonts and FontMover. Edit size, position, shape, colour, pattern, style, kerning and spacing, italic slant, and more.

**Comicart Series**

DAT 49.95  
Clip art designed to be used with ComicSetter. Funny Figures, Science Fiction or Super Heroes.

**Comicsetter**

DAT 95.00  
Colour Desktop Publishing for comics lovers. Object oriented interface, selection of clip art, import objects from IFF paint package or clip art.

**Compugraphic Decorative Fonts Gold Disk**

CMT CALL  
For Pagestream and Professional Page. Includes Brush, Cooper Black and Letraset Review Shadow.

**Compugraphic Designer Fonts - Gold Disk**

CMT CALL  
For Pagestream and Professional Page. Includes Bodoni Book, Microstyle, Extended and Park Ave.

**Compugraphic Outline Fonts - Gold Disk**

CMT CALL  
For Pagestream and Professional Page. Thirty Compugraphic typefaces for high resolution dot matrix or postscript printers.

**Compugraphic Publisher Fonts - Gold Disk**

CMT CALL  
For Pagestream and Professional Page. Includes Antique Olive, Garamond Antiqua, Future and Book II.

**Compugraphic Video Fonts - Gold Disk**

CMT CALL  
For Pagestream and Professional Page. Includes Clarendon, Gutter II Bold and Dom Casual.

**Daatascan Professional**

PAC 499.00  
Scan from 100 to 400 dots per inch, it is 105mm wide. Supplied complete with Daatascan image scanning and editing software. The software can easily merge two 105mm wide scans together to form a single A4 image.

**Design 3D**

DAT 95.00  
3D modelling/rendering system, user friendly interface No HAM/true ray-tracing. Good rendering with half-tone dithering of 16 colours. 3D text generator.

**Design Works**

CMT 136.33  
Structured drawing for the Amiga. Fast redrawing and an intuitive interface. Includes Bezier curves, multiple drawing layers, flexible text handling, user-definable multicolour patterns. Near-PostScript result.

**Eclips**

DAT 139.95  
Structured Clip art compatible with Professional Page or Professional Draw, over 300 clips and a wide selection of subjects.

**Epson 6000 Driver**

DTU 239.00  
Controls 300 dpi Epson scanner via centronics cable (supplied) on parallel port. Operates from within Art Department Professional, providing 24 bit colour or 8 bit grey scale.

**Gold Disk Type**

DAT 79.95  
High quality AFGA Compugraphic outline fonts. These fonts can be used in any point size and in any product that supports Amiga fonts.

**Outline Fonts**

DAT 275.00  
Typefaces which may be used in Professional Page and Professional Draw for optimum output from any printer including 9 and 24 pin InkJets, LaserJets and DeskJets and also fully PostScript compatible.

**Pagesetter II**

DAT 179.95  
Produce newsletters, flyers, resumes, ads, brochures and more on a dot matrix printer. Includes unlimited number of columns, four levels of magnification, ruler grid, margin, measurements in inches/pica or cms.

**Pagestream 2.1**

CMT CALL  
Variety in publishing programs such as color separation, rotation of text and graphics, text formatting and manipulation options.

**Pagestream 2.2**

CMT 418.02  
Boxed.



## Pagestream 2.2

CMT 211.47  
Shrinkwrapped.

## Pagestream Business Forms 1

CMT 65.17

## Pagestream Font Editor

CMT CALL

## Pagestream Font Pack 1

CMT 83.79  
Dot Matrix and PostScript. Spokane, Devoli, Thames, Westside, Elegance, Zip, Roman, Bookface, Calgary, Athena, Lineprinter, Lucisans, PageStream, Circus and Keyboard 2 Amiga.

## Pagestream Font Plus Pack

CMT CALL  
Dot Matrix and PostScript. Helvetica Narrow, Helvetica Avant Garde, Chancery, Courier, Times, Bookman, Palatino, Schoolbook, Dingbats and Symbols.

## Pagestream Fonts 1 + Pack (1 and 8)

CMT 46.55  
Dot Matrix and PostScript. Spokane, Devoli, Thames, Autobahn, Leroy Script and Crackers.

## Pagestream Fonts 2 + Pack (2 and 7)

CMT 46.55  
Dot Matrix and PostScript. Elegance, Roman Bookface, Westside, Mars One, Oddballs and Paint Brush.

## Pagestream Fonts 4 + Pack (4 and 14)

CMT 46.55  
Dot Matrix and PostScript. Courier, Palatino, Symbols, Colliseum, Tripoli and Anchovies.

## Pagestream Fonts 5 + Pack (5 and 9)

CMT 46.55  
Dot Matrix and PostScript. Schoolbook, Helvetica Narrow, Dingbats, Bodoni, Quadrant and Romanopolis.

## Pagestream Fonts 16

CMT 46.55  
Dot Matrix and PostScript. 30 Wt Solid Round, Antiquity and Lincoln.

## Pagestream Quick Forms

CMT CALL  
One hundred ready made business forms, page layouts and assorted documents.

## Pelican Press

MVB 99.95  
Create colourful cards, banners, cartoon style posters and print them. Includes lots of clip art.

## Postdriver 2.0

DTU 99.00  
Provides support in Devs for output to a PostScript printer. Now databases, spreadsheets and text editors can write directly to one. No need to reset printer to BPLaser jet emulation each time. Supports colour.

## Printmaster Plus

DAT 49.95  
Create your own banners, greeting cards, signs, etc. by choosing from over 120 graphics and background patterns with eight type fonts in a variety of sizes. Preview on screen before printing.

## Prp Clipart Vol I & II

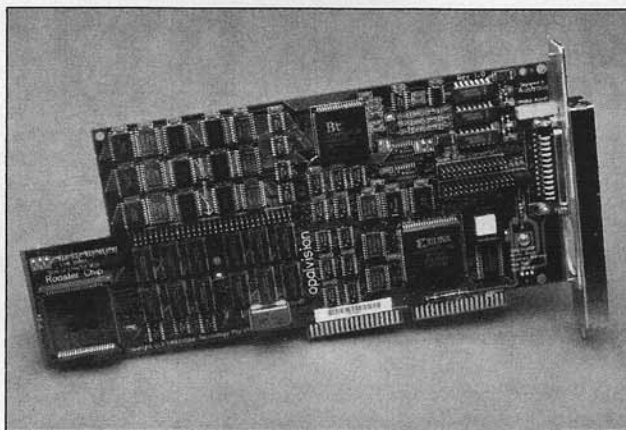
DTU 49.00  
Structured clipart for the Amiga, for use with desktop publishing and structured art programs such as Pro Page and Pro Draw. Australian images included.

## Professional Draw 2.0

DAT 275.00  
Structured graphics program with assorted geometric/ freehand drawing tools. Includes reflection, rotation and distortion tools with full text capability. WYSIWYG.

## Professional Page 3.0

DTU 469.95  
Uses AGFA Compugraphic fonts for a professional quality type. Precision typography, unparalleled graphic control and colour separation are featured.



Opalvision

## Professional Page Templates

DAT 79.95  
Designs for Advertisements, Envelopes, Business Cards, Flyers, Brochures, Reports, Newsletters, Layout Grids. Also includes font charts and glossary of contemporary design terms.

## Professional Scanlab

DTU 1290.00  
Controls the Sharp JX-300, 450 and 600 colour scanners with the A2000 and above. New, slimmer board. Global colour correction, brightness and contrast controls, positive/negative conversion, palette selection & more.

## Publishers Choice

DAT 199.95  
Basic DTP system - Kindwords V2.0, PageSetter 1.3 and Artists Choice.

## Softclips

DAT 109.95  
A collection of high quality, hires, bit mapped clip art. Volume 1 - Classic art, Volume 2 - People art, Volume 3 - Collectors, Volume 4 - Animals.

## Structured Clipart

DAT 79.95  
A collection of professionally drawn structured clip art covering a wide variety of topics. They can be resized and manipulated in Pro Page or Pro Draw, with non-jagged output from any printer.

## Top Form

CMT 83.79  
Design and print professional forms for office or home Import or merge text files with forms. True print not a graphics dump so forms are clear and crisp.

## True Print 24

CCS 130.00

## Turboprint Professional

GSO 140.00  
Printer enhancement and control program. Gives vast improvements in print quality with all Amiga programs. Superior control over scale, size, colour and dithering patterns and smoothing. Can also do colour separations.

## DESKTOP VIDEO

### Amilink Consumer - C12-VP (2 VCRS)

CCS 2510.00  
Domestic version, suits Panasonic or Sony VCRs.

### Amilink Consumer C13-VP (3 VCRS)

CCS 3825.00  
Domestic version, suits Panasonic or Sony VCRs.

### Amilink Consumer C14-VP (4 VCRS)

CCS 4695.00  
Domestic version, suits Panasonic or Sony VCRs.

**BCD 2000A Animation Cont.**

CCS 2189.00

**BCD2000A Display Module**

CCS 599.00

**BCD5000A-2 VTR'S + Display**

CCS 5319.00

**Broadcast Titler II**

CMT 511.12  
2160 x 1440 effective res, displays multiple IFF pictures and colour fonts, accepts popular Amiga and colour fonts. Full 736 x 480 overscan, 4096 palette.

**Broadcast Titler II Font Enhancer**

CMT 250.44  
Convert any single colour Amiga font to Broadcast Titler 2's four level anti-aliased format. Eliminates jagged edges, fonts occupy up to five times less memory, preserves detail in reduction.

**Broadcast Titler II Font Pack #1**

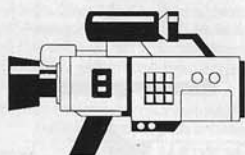
CMT 241.13  
Ten professional high quality typefaces. All fonts are in both anti-aliased Broadcast Titler 2 and standard Amiga formats. Font sizes are 100 scanlines in height. Each font contains full 256 ASCII character set.

**Broadcast Titler II with 35NS Option**

CCS TBA  
Provides 'REAL' Broadcast quality titling.

**Broadcaster Titler II**

MVB 369.00  
It is a widely regarded as the most powerful and professional character generator available for the Amiga, with high quality anti-aliased fonts, smooth dynamic transition effects, with mouse/keyboard driven interface.


**CI-3000 Film Recorder**

DTU 9815.00  
High resolution slides (2000/4000 lines) and prints from files on disk, can be taken from any format supported by Art Department Professional. Requires ADPro CI-3000 - camera backs for 35mm slides/Polaroid film.

**CI-5000 Film Recorder**

DTU 13048.00  
High resolution slides (2000/4000 lines) and prints from files on disk, can be taken from any format supported by Art Department Professional. Requires ADPro.

**Credit Text Scroller**

CMT 55.86  
Using point-and-click interface, select fonts, font sizes, and scroll rates. Result is in common ANIM format, for easy interchange with programs like DPaint. Automatic shadows, colours, subtitle option and more.

**Deluxe Video III**

CMT 91.77  
Create video presentation combining sounds, Sonix music, IFF images and animation. Time based editing with limited interactive capabilities. Includes stand-alone player.

**Digi-View 4 Upgrade**

CMT 79.73

**Digi-View Gold IV (PAL) - Amiga 500/2000**

OZI 299.00  
A500/2000. digitise from 320 x 200 up to 768 x 480, 2-4096 colour, enhanced HAM, 100% IFF compatible, advanced dithering routines.

**Digi-View Professional Colour Wheel**

CMT CALL  
Perspex colour wheel for use with Digi-View.

**Digi-View**

OZI 353.95  
Same software as Digi-View Gold, however, the interface is different. Suits A1000 only.

**Harlequin TV Paint**

CCS 2740.00

**Kara Headline Fonts 2**

MVB 69.95  
Two disk set with four new eight colour fonts in two - three sizes each. ChiselScript, Glass, Engraved and Embossed.

**Kara Headline Fonts 1**

CMT 120.10  
Three disk set, features 10 hi-res, dimensional, up to 8 colour, upcasefonts in 2 sizes each. Font styles in Chrome, Marble, Brick, Granite, Chisel, Wood, Bevel Cast, Chiselserif and Column.

**Kara Headline Fonts 3**

CMT 120.10

**Kara Starfield Fonts**

CMT 92.17  
Animated hi-res 704 x 480 overscan, Starfield backgrounds in three views. Each in a two-colour version fast loading to dump to video and 16 colour palette version include two different Kara Fonts & more.

**Kara Subhead Fonts**

CMT 107.07  
Two disk set. Scaled down version of Headlines, offers same ColourFonts in two smaller sizes. Allow a greater range of flexibility in titling without having to reduce, use in lower res at a workable size.

**Minigen (PAL)**

CMT CALL  
Genlock A500/A2000.

**Neriki CE100 PAL Colour Encoder**

FRD 474.00  
Amiga to composite or Y-C.

**Neriki Composite Desktop Genlock**

FRD 1257.00

**Neriki Dual Channel Pro Y-C Genlock**

FRD 1474.00  
Features automatic detection and switching to dual channel Y-C with full broadcast quality. Will operate with any model Amiga, self-powered from mains, simple front panel controls, full bandwidth encoding 600 line.

**Neriki Imagemaster Genlock**

FRD 1700.00  
Options available including YUV.

**Neriki PS100 Universal Power Supply**

FRD 84.00  
Companion for the range of Neriki Interface equipment.

**Omni-Gen 702 PAL**

CCS 3755.00

**Omni-Gen 712 Y-C/PAL**

CCS 5315.00

**Omni-Gen 722 Component**

CCS 7215.00

**Opalvision**

OT 1299.00  
A 24-bit display system with optional plug in modules. Includes an excellent paint program, slide show and animation player. Requires expansion slot in A2000/3000/4000. Lots of memory and HD recommended.

**Pal Genlock**

CCS 859.00

**PAL/Y-C TO RGB Converter**

CCS TBA

**Phoenix Colour Digitiser**

PP 399.00  
Our colour splitter digitiser takes all the hassle out of digitising from ANY colour video source. This is the ultimate upgrade for your DigiView 4 software. With Art Department \$499, with Art Department Professional \$699.

**Pro Video CGII**

CMT CALL

**Pro Video Plus (PAL)**

CMT 330.51  
Video character generator. Hi-res video with expanded screen size of 672 horizontal pixels by 500 scanline. Requires Kickstart 1.2 and 1 meg with at least 410k of Chip & 400k fast RAM. Second drive required.



## Pro Video Post (PAL)

CMT CALL  
Provides full screen manipulation tools. With unique keyboard user interface, full hi-res overscan screens can be reduced, enlarged and manipulated. Screen res of 720 x 480.

## Protitler

FRD 369.00  
A full titling package that runs on 1 meg, provides roll, crawl and elastic effects. Will work on A500 with 1 meg memory, loads IFF files, will accept colour fonts up to 8 colours, and many more features.

## RGB TO PAL/Y-C/YUV/YRB Transcoders

CCS TBA

## Rocgen Plus Genlock

MAT 399.00

## Scroller

DTU 129.00  
Big Alternative Scroller or BAS is a fast, smooth, simple titling package ideal for quick work and entry level titling. Offers fonts suitable for video use, choice of text styles, sizes, colours and effects.

## Sirius Genlock

CCS 1999.00

## Super VHS Adaptor Lead

PAC 39.95  
For Vidi RGB Splitter.

## TC200 Transcoder

FRD TBA  
To convert composite to Y-C to composite. This enables the use of S-VHS equipment with existing composite recorders.

## Title Page

CMT 74.48  
Professional titling package and brush manipulator. Titler, font manager, script viewer, effects editor, pattern editor, list modifier and slideshow system included. Arexx Support, full IFF support, and more.

## TV Show V2.0 (PAL)

CMT 138.72  
Slide show generator. Add speech and now supports ANIMS and digitised sound, AmigaDOS V2 compatible. One mb RAM, 2 disk drives or hard drive recommended.

## TV Text Professional

CMT 241.13  
Produce lettering and graphics for video titling and desktop video presentations. Contains program disk and Zuma Fonts Volumes 1 - 3 and Users Guide. Full IFF compatibility, 1mb RAM, 2 drives/hard drive rec.

## VD2001 - F/BUFF, F/GRAB, G/LOCK

CCS 3499.00

## VD2020 - F/BUFF, F/GRAB, G/LOCK

CCS TBA  
TMS 34020 based board.

## Video Blender

CMT CALL  
Features video switching, luma-keying, genlocking, local colour generation in 16 million colours, video fading/wiping, and stereo audio mixing. External, self contained unit with power supply.

## Video Converter

CCS 399.00  
Converts from Y-C and Composite to RGB.

## Video Digitiser II

DQS 240.00

## Video Effects 3D (PAL)

CMT CALL  
3D video special effects and animation. Icon and mouse driven user interface. Supports overscan, on-line help. Operates in hi-res mode using 2-8 of the 4096 colours.

## Video PC Add on Pack

CBM 599.00  
AlterImage.

## Video Titler

DQS 10.00  
Great way to title your home movies.

## Video Tools on Tap

FRD 119.00  
A multitasking utilities package that provides much needed function for video production. Features include colour bars, auto detect illegal colours, run out count plus tones, supports overscan and many more.

## VideoTitler 3D

CMT 175.56  
Video titling and special effects.

## Vidi Amiga

PAC 399.00  
High speed, high accuracy framegrabber. Take a video image from a VCR, camera or any video source in REAL TIME, no pausing and grabs in 16 shades of grey. Pack includes VidiChrome colourizing software free.

## Vidi RGB Splitter

PAC 299.00  
Companion to Vidi and VidiChrome. Allows you to digitize in full HAM colour without using colour filters. Grab a colour image in under one second, fully compatible with Digi-View.

## Vidtech Videomaster

CCS 2459.00  
External SVHS and composite, PAL or NTSC. Dissolve control bars, Wipe switches, RGB splitter for digitising. RGB processor, transcoding, internal sync. Amiga RGB bypass, keyout.

## Y-C Genlock

CCS 1299.00

## Y-C/RGB Splitter

CCS 579.00  
Split Y-C video into R-G-B for slow scan digitising.

# EDUCATION

## ADI 11/12 English

PAC 49.00

## ADI 11/12 Maths

PAC 49.00

## ADI 12/13 English

PAC 49.00

## ADI 12/13 Maths

PAC 49.00

## ADI 13/14 English

PAC 49.00

## ADI 13/14 Maths

PAC 49.00

## Adventures of Sinbad

DAT 59.95  
Exciting, animated graphics will capture your child's imagination while building vocabulary and reading skills. Over 600 reading comprehension and synonym/antonym questions. Grades 2 - 6.

## Aesop's Fables

DAT 59.95  
Age-old fables depicted with graphics and large, easy to read text. Includes four different learning modules: Aesop's Fables, Aesop's Spells, Spelling Skills, and Memory Builder.

## Algebra Plus Volume 1

DAT 79.95  
Hands-on problem-solving experience for pre to intermediate algebra students. Provides explanations for each working step of the equation, visual prompts also help. Grades 8 - 12.

## Algebra Plus Volume II

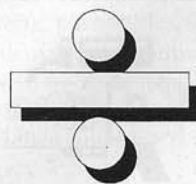
DAT 79.95  
Concentrates on advanced levels of algebraic concepts. In-depth coverage of polynomials and quadratic equations. Combines with Volume I to complete first year algebra instruction. Grades 8 - 12.

## Amiga Hard Drives

CCS 45.00  
Tutorial videotape.

## Animal Kingdom

DAT 59.95  
Six programs to teach children about the wonders of the animal kingdom. Grades 1 - 6.



**Animation Set - 1, 2 & 3**

CCS 118.00  
Tutorial videotape.

**Back to Basics**

DQS 55.95

**Better Maths**

PAC 59.95  
Ages 12 - 16. A range of topics from fractions to equations with improved graphics, sound effects and playability.

**Better Spelling**

PAC 59.95  
Ages 8 - adult. Covers punctuation, grammar, usage and more.

**Bible Reader**

CMT 138.72  
New International version which contains all 66 books, easy-to-read modern English translation. Large 300 thousand character concordance/reference.

**Birds 'n' Bees**

PAC 39.95  
Designed to teach children about themselves and their development. Access levels are set by parents. Explains sexual development and goes into hazards such as AIDS, sexual harassment and abuse and their reactions to it.

**Brainscrambler**

DAT 32.00  
New dimension on an old pastime - jigsaw puzzles. Nineteen different puzzles to choose from, with seven levels of difficulty. Load your own art as a puzzle.

**Builderland**

CMT 27.93

**Colour Cycling**

CCS 45.00  
Tutorial videotape.

**Count and Add**

PAC 34.00  
Five absorbing, carefully structured educational games covering number recognition and simple counting and addition. These include speech synthesis for that little something to keep the kids interested.

**Decimal Dungeon**

DAT 59.95  
Add, subtract, multiply or divide decimals, convert them to percents or fractions or vice versa to escape the crystal caverns of the dungeon master. Incorrect answers are given full screen explanations.

**Deluxe Paint IV Video Guide Vol 1**

EA 39.95

**Deluxe Paint IV Video Adv Techniques 2**

EA 39.95

**Designasaurus**

CMT CALL  
Dinosaurs come alive with sights and sounds. Create your own prehistoric giant. Print out 12 different dinosaurs.

**Digitising**

CCS 45.00  
Tutorial videotape.

**Dinosaur Discovery Kit**

DAT 49.95  
Experiment with colour and learn about dinosaurs in the colouring book module. Grades K - 3.

**Dinosaurs**

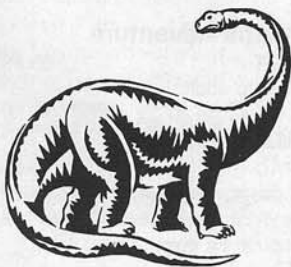
DQS 10.00  
HyperBook program.

**Dinosaurs are Forever**

CMT CALL  
Build dinosaurs, print out, colour in, experiment with simulator.

**Discovery 2.0**

CMT CALL  
Game disk with math or spelling. Easy playability and compelling graphics. Extension disks also available.

**Distant Suns 3.0**

DAT 99.95  
Features realistic colour with full screen sky viewing option, 2,200 stars, 450 deep sky objects in an authentic astronomically correct sky. 9,100 star expansion disk available. Requires one megabyte.

**Dr. Spellingstein**

DAT 59.95  
Engaging game format with colour graphics and sound effects. Includes full teacher control, three different games, ability to test number facts, general knowledge etc., 164 graded word lists for use at home.

**EZ Grade**

CMT 93.10  
Teacher class grading software.

**First Shapes**

DAT 49.95  
Increase your child's readiness for mathematics, reading, writing and problem solving with the First Byte Bear, a talking computer friend. Grades Preschool - 3.

**Flowers of Crystal**

DAT 69.95  
Adventure game in two parts. Includes a teacher's guide story book, audio-cassette and map.

**Fraction Action**

DAT 59.95  
Includes a variety of addition, subtraction, multiplication and division problems on three difficulty levels.

**Fractions**

DQS 34.95  
Age group 7-14. Teaches fractions.

**Fun School 2**

PAC 49.95  
Range of three disks for ages 2 - 6, 6 - 8 and 8 up. Animation and sound effects are used to present multiple subjects in a game style format.

**Fun School 3**

PAC 54.95  
The range consists of three separate programs suitable for the following age groups: 3 - 5 years, 5 - 7 years and 8 years up. Feature graphics, sound effects and rewarding the child for achievement.

**Fun School 3 CDTV**

PAC 69.95  
Animated, educational program found in the original Fun School but with the speed and ease of use of the exciting Amiga CDTV.

**Fun School 3 In French**

PAC 54.95  
Animated educational program found in Fun School 3, but in French. Reinforce foreign language teaching. Consists of three titles, under 5, 5 - 7, and 7 plus.

**Geology**

DQS 12.00

**Henrietta's Book of Spells**

PAC 59.95  
Designed to help 7 - 14 year olds improve their spelling and vocabulary. Five sections with multiple skill levels. Word lists contained in the package are easily modified.

**Hooray for Henrietta**

PAC 59.95  
Designed to help 5 - 12 year old to add, subtract, multiply and divide quickly and accurately. Each function has eight skill levels, strongly features animation, graphics and sound.

**Jara-Tava, the Isle of Fire**

DAT 69.95  
Classic adventure game involving pirates, volcanoes, hidden treasure, excitement and a plot to stretch the imagination of any middle primary child.

**Junior Typist**

PAC 59.95  
Ages 8 - adult. Teaches children the correct hand and finger positions and drills them in letter, word and phrase typing.



# Kadimakara: Creatures of the Dreaming

DAT 69.95  
Explore the mists of prehistoric Australia and discover a past of incredible richness and variety. Information packed teachers guide as well as activity pages, reference pages and a guide to resources.

# Katie's Farm

DAT 59.95  
Introduce children to the computer and reinforce object/shape recognition, spatial relationships, eye/hand co-ordination, cause and effect and story telling. Grades Preschool - 1.

# Kinderama

DAT 59.95  
Includes five interactive programs to introduce young children to the Amiga.

# Land of the Unicorn

DAT 59.95  
Develop thinking and reasoning skills while building vocabularies. Variety of educational activities and interactive fantasy adventure game. Requires one megabyte. Grades 4 - 9.

# Language Partner - Japanese 1

WH TBA

# LCL Micro English

PAC 49.95  
Ages 12 up. Advanced, revisionary English language program including an audio tape to test responses to spoken English as well as written English.

# LCL Micro Maths

PAC 49.95  
Ages 12 up. Advanced mathematics program for the older student. Consists of 24 separate programs covering a diverse range of topics including Fractions, Percentages, Algebra, Polynomials and Binomials.

# Let's Spell at Home

PAC 49.95  
Ages 4 - 9. Teaches letter recognition and spelling with the help of computer graphics and speech synthesis. English version, French version also available.



The Story Puzzlebook

# Let's Spell at the Shops

PAC 49.95  
Ages 4 - 9. Teaches letter recognition and spelling with the aid of graphics and speech synthesis. English version, French also available.

# Let's Spell Out and About

PAC 49.95  
Ages 4 - 9.

# Magic Maths

PAC 59.95  
Ages 4 - 8. Covers simple addition and subtractions. Mouse driven.

# Magic Storybook

CMT 55.86

# Magical Myths

DAT 59.95  
Introduces children to Greek myths. Animated stories including Creation of the Gods, Pandora's Box and King Midas. Also includes over 600 reading comprehension and vocab. questions. Grades 2 - 6.

# Math Blaster Plus

DAT 69.95  
Contains five motivational learning activities covering 750 basic maths functions: Countdown, Ignition, Lift-off, Orbit, Blasternaut Game. Grades 1 - 6.

# Math Talk

DAT 49.95  
Member of Talking Notebook Series. Enter and solve your own math problems, complete assignments, prepare for tests, learn calculator skills and master the basic maths facts. Grades 1 - 6.

# Math Talk Fraction

DAT 49.95  
Help students master fractions, decimals and percentages. Four learning modules. Grades 3 - 9.

# Math Wizard

DAT 59.95  
Four educational games with animated graphics to make learning maths fun.

# Math-a-Magician

DAT 49.95  
Interactive maths program for learners of all ages. Helps students learn while challenging them to think by integrating different levels of difficulty into the program. Grades 1 - 6.

# Maths Adventure

CMT 55.86  
Five to adult.

# Maths Mania

PAC 59.95  
Covers multiplication and division and can be operated with the mouse for ease of use. Ages 8 - 12.

# Maths Master

DTU 39.00  
Maths educational package for Grades K to 6. Locally produced and observes arithmetic procedures used in Australian schools. Images by local graphic artist.

# Mavis Beacon Lab Pack 5

CMT 186.20

# Mavis Bacon Teaches Typing

CMT 65.17  
Lessons and games to teach typing.

# McGee

DAT 59.95  
Easy way for children to become familiar with the computer by running the program themselves. Grades Preschool - 1.

# Mega Maths

PAC 49.95  
Step-by-step self tuition and revision mathematics course. Covers 24 topics including straight line geometry, polynomials, logarithms, trigonometry, tangents, binomial theory and more.

# Merlin's Math Amiga

PAC 45.00  
This encourages pupils to learn the basics of counting, decimals, fractions, volumes and much more while retaining the fun element common to all Fun School programs.

# Micro French

PAC 49.95  
Using a combination of computer programs and voice cassettes, Micro French is a complete tutorial package designed to introduce the French language. Covers written and also punctuation and comprehension.

# Mix and Match

PAC 59.95  
Helps develop essential pre-reading skills. Uses pictures, familiar shapes and specially drawn letters and numbers, the program is designed to develop recognition, visual recall, discrimination and memory.



**Mixed up Mother Goose**

OZI 49.95  
Mother Goose takes children on an adventure to find her mixed-up rhymes and restore them back to normal. Comes with written and visual clues, easy-to-use joystick or keyboard controls. Includes full colour map.

**Mosaic**

DAT 39.95  
Simple picture making program. Create or design your own, save picture to disk or print out. Grades K - 2.

**My Paint**

DAT 69.95  
Includes 28 drawings, animated icon menus, various brush modes, colour cycle effects, more colouring book disks available, sampled sounds for each picture mode.

**My Paint Colouring Disks**

DAT 29.95  
Disk One is Alphabet Fun, consisting of a letter with a corresponding drawing and accompanying digitised speech. Disk Two is Graphics, with Majelix a reading method based on phonics and sight reading.

**Paint and Create**

PAC 48.00  
Helps children exercise their creativity talents in six entertaining activities, some with a practical bias and some just pure fun. Its purpose is to help children achieve tangible results.

**Picture Book**

DAT 39.95  
Create stories in words and pictures. For Grades 1 - 6.

**Primary Maths**

PAC 49.95  
Covers from 3rd class to secondary school. Topics include simple addition/subtraction and number recognition through to percentages, fractions and algebra.

**Puzzle Book 1**

PAC 49.95  
Presents a set of six different puzzles designed to test logic, planning, mental arithmetic, spatial cognizance (mazes) and more. Features graphics and is suitable for all ages.

**Puzzle Book 2**

PAC 49.95  
Presents a set of six different puzzles designed to test logic, planning, mental arithmetic, spatial cognizance (mazes) and more. Features graphics and is suitable for all ages.

**Puzzle Storybook**

OZI 49.95

**Read & Rhyme**

DAT 59.95  
Four interactive learning activities, Rhyming Rockets, Flying Saucer, Alpha Blast and Rhyming Challenge.

**Read-a-Rama**

DAT 59.95  
Contains five programs: Word-a-Rama, Read-a-Rama, Spell-a-Rama, Read and Remember, and Spell and Remember. Grades 1 - 3.

**Real 3D 1.4 Tutorial Tape**

CCS 44.50

**Real 3D Classic Tutorial Tape**

CCS 95.00

**Real 3D V2.0 Tutorial Tape**

CCS 95.00

**Rhyming Notebook**

OZI 49.95

**Robot Readers**

DAT 39.95  
Built-in word games and beautiful illustrations hold attention and promote early reading skills, vocabulary and word recognition. Titles include Chicken Little, Aesop's Fables, Little Red Hen, Three Little Pigs and more.

**Rody and Mastico II**

PAC 39.95  
Help Rody and robot Mastico to rescue Father Christmas. Use logic and forward thinking to plan their way thru the game. Colour in the graphics which can be printed out if desired.

**Rody and Mastico**

PAC 39.95  
Help Rody and robot Mastico journey to the Land of a Thousand Colours and rescue the Star. Use logic and reasoning to solve the questions, colour in the pictures and print them out. Multiple difficulty levels.

**Sesame St Triple Pack**

CMT CALL  
Includes Letters for You, Numbers Count and Opposites Attract.

**SimAnt**

CMT 82.46

**SimCity**

CMT 74.48  
Simulation strategy without violence. Loaded with animation and details sound effects. Choose from an unlimited number of different cities.

**SimCity Graphics Set 1**

CMT 54.53  
Set One includes Ancient Asia, Medieval Times and Wild West.

**SimCity Graphics Set 2**

CMT 54.53  
Set two includes future United States, future Europe and Moon Colony.

**SimCity Lab Pack**

CMT 179.55

**SimCity Terrain Editor**

CMT 27.93  
Custom design landforms for use with SimCity.

**SimEarth**

CMT 90.44

**Smooth Talker**

DAT 49.95  
Speech synthesiser that converts English text, numbers into high quality, natural sounding speech.

**Space Maths**

PAC 49.95  
This program reinforces and teaches mathematical principles while the user enjoys an interactive game.

**Speed Read**

PAC 99.95

**Spell-a-Saurus**

DAT 59.95  
Uses multi-colour graphics and unlimited speech to teach spelling. Move at the child's pace while entering spelling lists and playing four fun and challenging word games. Hear words spoken. Grades K-6.

**Spellbound**

DAT 59.95  
Combines animation, graphics, music and digitised speech to create a fun learning atmosphere. Games are designed to drill and teach sight recognition skills.

**Speller Bee**

DAT 54.95  
Incorporates speech into software for the purpose of improving skills. Features customisable student or parent entered spelling lists. Grades 1 - 9.

**Spelling Fair**

PAC 48.00  
Spelling Fair helps children master basic techniques of spelling and grammar.

**Tales From the Arabian Nights**

DAT 59.95  
Three stories with animated graphics: *Aladdin's Lamp*, *The Ebony Horse* and *Ali Baba*. Enhance reading comprehension, creative writing and language art skills. Grades 2 - 6.

**The Logic Master**

DAT 69.95  
Aims to develop high-level thinking skills through the introduction of a broad variety of analogy and number series activities.

**The Story Puzzlebook**

DAT 49.95  
Design pictures, turn them into puzzles to solve and write stories to publish. Unlimited text to



speech and unlimited possibilities, children create their own tools for discovery. Grades K - 3.

## The Rhyming Notebook

DAT 49.95  
Quick access to an extensive rhyming dictionary.

## The Three Bears

PAC 59.95  
Children must use logic, forward thinking and planning to achieve a solution to this fairy tale based graphic adventure. Ages 5 - 10.

## The Word Master

DAT 59.95  
Includes four educational activities designed to build word power skills: Vocabulary Test, Master's Review, Vocabulary Challenge and Master's Maze.

## Things to do with Words

PAC 39.95  
Show children how words can be used in different situations. The three part program shows anagrams, "hidden words" and jumbled sentences.

## Typing Tutor with Word Invaders

PAC 49.95

## Uncle D's Con Sound Tration

DAT 39.95  
Concentration adapted to teach anything from numbers to animal sounds.

## Video Graphics

CCS 45.00  
Tutorial Video Tape.

## Voyager

CMT 186.20

## Where in Europe is Carmen San Diego

DAT 79.95  
Travel through 34 European countries learning about geography, culture and history. Includes Rand McNally Concise Atlas of Europe and User's Manual.

## Where in the USA is Carmen San Diego

DAT 79.95  
Includes Fodor's USA travel guide.

## Where in the World is Carmen San Diego

DAT 79.95  
Chase Carmen and her gang all over the globe as you decipher clues using your Crime Computer and your copy of The World Almanac. Along the way, pick up interesting information on geography, history and culture.

## Where in Time is Carmen San Diego

DAT 79.95  
Spans the centuries from 400-1950 AD and track Carmen across 14 countries.

## Word Hunt

DAT 49.95  
Designed to improve reading and

comprehension using a passage of text that has some words missing and the children use contextual clues to replace words. Grades 1 - 6.

## World Atlas 2.5

CMT 93.10  
Direct access to information and details on more than 170 countries plus 50 US States. Discover history, population, language and customs as well as earth facts and information about time sectors and more.

## Fonts

### Broadcast 3D Fonts

MVB CALL

### Pro Video Alternate Font Set 1

CMT CALL  
Broadcast quality fonts. Only for Pro Video Plus or Pro Video CGI. Showtime, Competition, Bulletin and Future.

### Pro Video Alternate Font Set 2

CMT CALL  
Broadcast quality fonts for Pro Video CGI or Pro Video Plus. Encore, Pacific, Europa and Computer.

### Pro Video Alternate Font Set 3

CMT CALL  
Broadcast quality fonts for Pro Video CGI or Pro Video Plus. Coup, Electric, Fancy & Tubular.

### Pro Video Alternate Font Set 4

CMT 110.39  
Broadcast quality fonts for Pro Video CGI or Pro Video Plus. Headline, Nova, Optic and Network.

### Prowrite Pro Fonts 1

MVB 39.95  
Font collection for use with ProWrite V2.0. Ten professional fonts.

### Prowrite Pro Fonts 2

MVB 39.95  
Font collection for use with ProWrite V2.0. 27 Decorative fonts and Dingbats.

## Zuma Fonts Vol 4

CMT 37.24  
Video presentation graphics. Each volume contains three different typestyles ranging in size from 20 to 100 points. Deco, Divine and Draft.

## Zuma Fonts Vol 3

CMT 37.24  
Video presentation graphics. Each volume contains three different typestyles ranging in size from 20 to 100 points. Coop, Script and Fast.

## Zuma Fonts Vol 2

CMT 37.24  
Video presentation graphics. Each volume contains three different typestyles ranging in size from 20 to 100 points. Euro, Stencil and Chelt.

## GENEALOGY

### Your Family Tree 2.1

CMT 120.10  
Genealogy program; keep track of complex family links. Supports as many as 16 million individuals, eight marriages and 40 children per family. Powerful search function that allows creation of custom records.

## GRAPHICS

### Art Pak #1

CMT 27.93

### Brilliance

MVB CALL  
Great new paint package.

### CAPS Master Station

CCS 2189.00

### CI-3000 Printer Driver

DTU 269.00  
Requires ADPro.

### Deluxe Paint II

CMT 90.44  
Create stationery, banners, cards and the like.

### Deluxe Paint III

CMT 90.44  
All the expected functions plus wrap fills, EHB shadow painting, faster perspective, powerful animation operation with all normal/special drawing tools.

Deluxe Paint

The screenshot shows the Deluxe Paint software interface. At the top, there's a 'Move' section with 'Dist' (X, Y, Z) and 'Angle' (0, 0, 0) settings, along with 'Brush' and 'Cyclic' checkboxes. Below this are 'Ease-Out', 'Ease-In', and 'Count' settings. The 'Direction' section includes 'Move' and 'Record' buttons with directional arrows. At the bottom, there are 'Preview', 'Fill', and 'Draw' buttons. The interface is designed for creating and editing graphics.

**Deluxe Paint IV**

EA 179.55  
In addition to DPaint, version IV includes morphing, HAM support, improved MOVE requestors and a complete new manual. There's also a WB2.0 look and feel.

**Demo Maker**

PAC 69.95  
No programming knowledge is required to create demos. All selections are chosen from menus, and all speeds, rotations and effects are altered by overtyping default values. Can be used with a genlock.

**Fine Print**

CMT CALL  
Multiple gray shade print program works with most dot matrix printers. Makes highly detailed prints with true shades of gray, makes near photograph quality prints, postage stamp and mural size prints.

**Graphics Starter Kit - Aegis**

CMT 55.86  
Includes Animator, Images, Draw, Artpak 1 & Arazok's Tomb. Entry level animation package. Excellent value for money.

**Image Finder**

CMT 102.41  
Finds graphic files by looking at thumbnails of the images in full colour or gray scale. Scans disk volume and/or directories for ILBM or ANIM files to create index. Browse through thumbnails before or after sort.

**Images Aegis**

CMT 37.24  
Bitmap paint system. With Deluxe Paint, one of the two original paint programs for the Amiga. This one has not progressed, bundled free with Animator.

**Interior Design Disk - Turbo Silver**

CMT CALL

**IV-24-TV Paint**

POP 1197.00

**Lights! Camera! Action!**

CMT 55.86  
Allows the combination of

animations, IFF pictures, sounds and music.

**Lunar Construction Kit**

CMT CALL  
Create your own scenes of lunar landscapes, asteroids and stars with high quality full colour images.

**Map Master**

CMT 110.79  
For Imagine.

**Media Station**

CMT 371.47  
Comprises Digi-View Gold 4.0, Digi-Paint and Elan Performer.

**Paint Fun**

AUA 10.00  
New.

**Paintmaster**

CCS TBA

**Pixmate**

CMT CALL  
Image processing and enhancement tools. Features space age, image enhancement techniques developed for NASA. Performs over 3,000 special effects.

**Scapes**

DAT 129.95  
Two sets. Valles Marineris - 88 landscapes on 6 disks from NASA & US Mars spacecraft surveys of the planet. California Set #1 - 68 landscapes on 6 disks from US Geological Survey data.

**Spectracolour Ham-e**

CMT 119.70

**The Art Department**

DTU 119.00  
Full image processing in up to 24-bit colour. Colour separation, GAMMA correction, digital scaling, swap between screen resolutions. Handles most picture format including A-HAM. Various file loaders available.

**The Art Department Tiff Loader**

DTU 73.00

**The Art Department Targa Loader**

DTU 73.00

**The Art Department Rendition Loader**

DTU 68.00

**The Art Department Giff Loader**

DTU 66.00

**The Art Department Professional V2.0**

CCS 360.00  
Advanced 24-bit image processing package. Reads and writes many image formats. Comes standard with loaders and savers for IFF, GIF, PCX, Sculpt, Digiview, Turbo, BMP, JPEG and more. Extensive AREXX interface & more.

**The Art Department Professional Conv. Pk**

DTU 119.00  
Upgrade from The Art Department to Art Department Pro.

**The Art Department Professional**

CMT 436.64

**The Art Department Pro TIFF Module**

CMT 138.72

**The Art Department Pro 2.1.5**

MVB 265.00  
Image processing and manipulation. Includes FRED, a separate utility for working with animation files. Button based interface, expandable with add on modules.

**The Connoisseur Fine Art Collection**

DQS 229.95

**Vista**

DAT 149.95  
Landscape simulation software, a collection of virtual realities. Features easy to use point and click interface, user controlled creation of rivers/lakes, saves as std IFF files, sound. Requires one megabyte.

**Vista Pro V2**

MVB 99.95

**Vistapro**

DAT 229.95  
Creates beautiful painting-like views and animations of real places. Incorporates many features asked for by users but which could not be incorporated in the original one meg Vista. Requires 3.5 megabytes.

**HARDWARE****1084S - Stereo Monitor**

CBM 499.00  
A 15Khz RGB Monitor suitable for standard Agnus graphic modes, or ECS and AGA modes which do not use high scan rates. Includes composite inputs and stereo sound. Can be used with a VCR.

**150MB Tape Streamer**

CBM 1399.00  
Backup your hard drive to tape - a slow but cheap method of making unattended (if required) backups of your files. Use HDBackup, QuarterBack or AmiBack.

**1930 VGA Monitor**

CBM 585.00  
For use with A3000, A1200 or A4000. Works well with ECS productivity mode for flicker free display.

**1960 Multisync Monitor**

CBM 885.00  
Handles virtually all Standard, ECS and AGA display modes. Able to sync to different scan rates.

**3.5" 880 K FDD Kit**

CBM 199.00

**3.5" Floppy Drive 720K Kit**

CBM 165.00

**3.5" Internal Drive for A500**

MCP 199.00  
Full kit with long button.

**3.5" Internal Drive for A2000**

MCP 199.00

**5.25" External Drive**

MCP 289.00



## Product Guide

### 50MB SCSI HDD & Controller

CBM 329.00

### 512KB Internal RAM for A500

MCP 89.00

### 68040 Accelerator

CCS 3740.00  
Complete with four megabytes of 32bit RAM 28Mhz 68040 Accelerator card

### 7 Port Serial Card

CBM 329.00

### A-Max II

DTU TBA  
Employs hardware and software to emulate a Mac. Requires Mac ROMS. External Mac drive recommended. No AppleTalk Support. Uses Amiga parallel/serial. Software Only.

### A-Max II Plus

DTU TBA  
New release - arrived late '92. Compatible with Mac System 7.0 and System 6.xx. Able to use Amiga drives directly to read/write Mac disks. Requires expansion slot A2000/A3000 or A500 with expansion chassis.

### A-Max II ROMS

DTU TBA  
ROMS for A-Max II.

### A1011 3.5" External Floppy Drive

CBM 199.00

### A2000 (3-0) CPU & Keyboard

CBM 1299.00  
1 x 3.5" FDD.

### A2000 (3-4) CPU/Keyboard

CBM 1599.00  
40MB HDD & 1x3.5" FDD.

### A2000 GVP RAM 8/ (0MB)

POP 264.67

### A2000 GVP RAM8/ (2MB)

POP 454.86  
8Mb RAM expansion for the

A2000. Autoconfigs with 2, 4 6 or 8Mb SIMM RAM fitted.

### A2000 GVP RAM8/ (4MB)

POP 638.40

### A2000 GVP RAM8/ (6MB)

POP 821.94

### A2000 GVP RAM8/ (8MB)

POP 1005.48

### A2000 HC8/0

POP 462.84

### A2000 HC8/120

POP 1236.90

### A2000 HC8/240

POP 1795.50

### A2000 HC8/420

POP 2713.20

### A2000 HC8/52Q

POP 893.76

### A3000 68040 Accelerator Card

CMT CALL  
OK RAM.

### A500 2MB RAM Board with 1MB

MCP 299.00

### A500 2MB RAM Board with 2MB

MCP 399.00

### A500 Base System

CBM 799.00

### A500-HD/120Q

POP 1356.60

### A500-HD/240Q

POP 1995.00

### A500-HD/52Q

POP 1029.42

### A501 512KB Expansion/ Clock

CBM 99.00

### A520 Comp Video / RF MOD

CBM 59.00

### A530-40MHZ-120M-4MB

POP 2322.18

### A530-40MHZ-120M-1MB

POP 2066.82

### A590 20MB Hard Drive

POP 764.75

### A600 1 Megabyte RAM Expansion

CBM 199.00

### A620 Comp. Video/RF Modulator

CBM TBA

### Accelerator (68030 + 2MB)

CBM 1399.00

### Accelerator (68030 + 4MB)

CBM 1699.00

### Access 64

CMT 55.86  
Use C64 serial peripherals with the Amiga. Includes interface and software.

### Amiga 2000(B) Keyboard Skin

CMT 34.86

### Amiga 20MEG Floptical

DTU TBA  
Internal and external version available. Combines optical tracking with magnetic media to obtain high density storage on special floppy disks.

### Amiga 500 Keyboard Skin

CMT 34.86

### Amiga A500 Power Supply

CBM 99.00

### Amiga External Disk Drive

CMT CALL  
External disk drive.

### Amiga Hi Res Card (UNIX)

CBM 1799.00

### Amiga Power Supply

CBM 97.50

### Amiganet

GPS  
Industry standard Ethernet network for Amiga 500 and Amiga 2000. True peer to peer networking. A500 = \$700.00 (ex-tax), A2000 = \$900.00 (ex-tax).

### Aminet

CMT 198.52

### Anti-Static Mat

CMT 29.87  
Anti-Static mat 18 x 24 with Snap-On grounding cable.

### Arcnet Card

CBM 349.00

### AT Emulator Kit

CBM 1099.00

### Atonce-Plus

FNH 499.00  
This 80286/16 emulator will fit the 500 and the 500 Plus and the 2000. No additional adapters are required

### AXRAM-4

GSO  
Internal memory board with clock for the A500. Supports 2meg of Chip RAM when installed with the super fat Agnus. Available in 0, 2 or 4 meg configurations. 0 meg = \$195, 2 meg = \$345, 4 meg = \$495.

### Barcode Reader

GPS TBA  
Barcode reader for Amiga multimedia applications.

### CDTV Player & Bonus Titles

CBM 1,599.00

### Cinemorph

POP 266.00

### Colorburst

MAS CALL  
24-bit, for all Amigas, plugs into RGB port. Full RGB output, 16

million colours. Supports major paint programs.

### Computer Hand II

CMT 14.91  
Paper Holder. Attaches to Monitor.

### Crystal Sound

MAS CALL  
Ultra low noise, crystal locked, jitter free stereo audio digitiser. Features sample rates up to 70k in stereo, dual AD converters, dual mic and line inputs with level adjust. Perfect Sound compatibility.

### D'Droid

GSO 85.00  
Small motor to control the DigiView colour wheel. Fully compatible with the DigiView DigiDroid.

### D'Fixer

GSO 79.00  
Small hardware interface that gets rid of the 'herringbone' pattern that is present when using a home colour video camera with the DigiView digitisers.

### Dataflyer SCSI Interface for A2000/3000

CMT CALL

### DCTV (PAL)

CCS 1299.00  
Display, digitise and animate 24-bit images in real time on stock Amiga model. Includes paint program and examples images. Connects to video port, parallel port and a composite monitor (1084 suitable).

### Deluxe Work Centre A500

DQS 119.95  
Fits over rear of A500, allows monitor to be placed on top, has shelf for power supply and extra drives. Hides cables and normal mess with the A500 and peripherals include mouse mat, mouse holder, joystick, etc.

### Digi-Droid

OZI 159.00  
Rotates Digi-View colour wheel with control direct from DigiView software. Connect to joystick port.

### Digital Sound Studio

POP 184.87  
8-bit sound recording, editing and processing. Software and hardware included.

### Digital Sound Studio

5+units  
POP 171.57

### Double Talk A2000/3000

CMT CALL  
A full AppleTalk Network system allowing Amiga and Macintosh computers to share information and resources or only Amiga Network to operate at double speed. Also available for the A500.

### Dr. T's Phantom

CMT CALL  
SMPTE Synch.

### Dual Serial Board

DTU 399.00  
By ASDG. Additional two high-speed serial ports for the Amiga. Allows use of all serial ports simultaneously. Fully compatible "serial device" driver. DOS handlers provided to allow control over expansion serial ports.

### Ethernet Card

CBM 499.00

### EXP8000+ RAM Expansion

CMT 597.52  
To 9Mb. 2Mb Populated.

### Fireball A2000

MAS CALL  
True DMA SCSI controller/Hard Card. Auto-boots, auto-mounts.

### Flash 2000

MAS 299.00  
SCSI/RAM card which allows you to add a high performance SCSI controller, drive and other SCSI devices, and 8mb or RAM using only one slot. Two versions - 8 bit economy and 16 bit turbo model.

### Flicker Filter

PP 25.00  
A perspex filter that fits over any 12"-14" monitor and aids in the reduction of interlace flicker. Can reduce apparent flicker by as much as 90% depending on the

screen colours used - average reduction is 50%.

### Flicker Master

CMT 44.83  
Works with all Amiga models, reduces interlace flicker. Attaches easily to monitor and improves control in all resolutions. Hi-res flicker 14" screen filter.

### Frame Grabber (PAL)

CMT CALL  
Realtime.

### G-Force 3050-50MHZ/ 4MB/NO Drive

POP 3192.00

### G-Force A2000-25MHZ/ 1MB/NO Drive

POP 1436.40

### G-Force A2000-25MHZ/ 1MB/52 Quantum SCSI

POP 2074.80

### G-Force A2000-25MHZ/ 1MB/120 Quantum SCSI

POP 2335.48

### G-Force A2000-25MHZ/ 1MB/240 Quantum SCSI

POP 2936.64

### G-Force A2000-33 MHZ 68040-4MB

POP 4149.60

### G-Force A2000-33MHZ 68040-16MB

POP 5649.84  
Features up to 64 Mb RAM Parallel and High Speed Serial port.

### G-Force A2000-40MHZ/ 4MB/NO Drive

POP 2082.78

### G-Force A2000-40MHZ/ 4MB/52 Quantum SCSI

POP 2721.18

### G-Force A2000-40MHZ/ 4MB/120 Quantum SCSI

POP 2981.86

### G-Force A2000-40MHZ/ 4MB/240 Quantum SCSI

POP 3583.02

### G-Lock

POP 1097.25  
With Scala Home Titrer.

### Game Controller I/R

CBM CALL

### Genius Tablet (Stylus)

DQS 360.00

### Genlock Card (PAL)

CBM 329.00

### Golden Gate

FNH TBA  
A 386SX based PC/At emulator developed by Vortex that will convert an Amiga 2000/3000 into a 386SX compatible. Designed as a bridgeboard that closes the gap between Zorro II slot and the 16 bit ISA-Slot.

### Golden Image Hand Scanner

CMR 399.00  
Hand scanner with touchup software, black and white or gray scale from 100 dpi to 400 dpi, will save files in multiple formats.

### Golden Image Master 3A-D

CMR 199.00  
Three and a half inch drive with track display.

### Golden Image Master 3A

CMR 159.00  
Three and a half inch floppy drive.

### Golden Image RC2000 Ram Card

CMR 449.00  
A2000 internal 2 - 8mb RAM card with 2mb on board. Uses 1mb x 1 chip to upgrade.

### Golden Image RC1000 Ram Card

CMR 329.00  
A500 external 2 - 4mb RAM card with 2mb of auto configure RAM on board. Upgradable to 4mb and can be piggybacked to give total of 8mb (plus 1mb internal). Looks like a hard drive, and will work on some A1000s.



**GP Touch**

GPS 200.00  
Touch screen driver software for MicroTouch touch screens. Emulates the mouse including access to menus. Includes intuitionised Touch Screen Preferences prog. Fully configurable with three operational modes.

**GVP A2000 SCSI**

**Controller & Ram Card**  
POP 435.00

**GVP A500 - 52 MB Hard Drive & Ram Card**

POP 890.00

**GVP G-Force 040**

POP CALL  
28Mhz 68040 Accelerator for the A3000.

**GVP Series II Accelerator**

POP 1,265.00  
Includes a 68030 CPU, 68882 FPU, 1 - 16 Mb of 32-bit wide RA and a built-in autobooting high performance SCSI hard disk controller. Also available with 52/105/170 Quantum SCSI. Other options also available.

**GVP Series II SCSI HD500 + 8MB Ram Cont.**

POP CALL  
Same specs as for the SII A2000 but for the A500 and with GVP custom 'mini-slot' expansion port. A500-HD/52Q & A500-HD/105Q.

**GVP Series II SCSI Hard Card + 8MB Ram**

POP CALL  
With Controller. High performance A2000 SCSI Controller, 8mb RAM expansion and hard card. Supports any SCSI device under the sun including tape drives, removable hard disks, CD ROMS and optical drives.

**GVP/PC286 16MHZ Emulator for A500 HD**

POP 699.00  
Plugs into 'mini-slot' of GVP's A500HD unit.

**Harlequin 1500**

CCS 3720.00

**Harlequin 2000**

CCS 3880.00

**Harlequin 3000**

CCS 4130.00

**Harlequin 4000**

CCS 4380.00

**Hitachi HV720 (PAL)**

**CCTV Camera**  
CMT 647.39  
Sixteen millimetre manual lens. For use with DigiView.

**Image FX and Cinemorph**

POP 490.77

**Imagemaster**

CMT 324.92

**Imagic - Modules 1 & 2**

CCS 3525.00  
To suit VD2002/VD2020.

**Imagic Module 1**

CCS 1955.00  
To suit VD2002/VD2020.

**Imagic Module 2**

CCS 1955.00  
To suit VD2002/VD2020.

**IMG Scan**

PAC 299.00  
Attaches to printer head and a set of optical fibres "read" whatever image is fed through the printer. Images can be saved in IFF format for use in other programs. 500/2000 and 1000.

**Impact Vision-24 PAL (PVA)**

POP 3,000.00  
Multi functional video adaptor for the A3000 and A2000 IV-24 plus design software.

**IV-24-CT Plus Design Software**

POP 4947.60

**IV-24-EX for Scala MM200**

POP 219.45

**IV-24-S Plus Design Software**

POP 3830.40

**Keyboard I/R**

CBM CALL

**Keyboard Wrist Pad**

CMT 24.90

**Kickboard Plus**

UNI 59.95  
Suits A500/A2000, especially suited for A500 owners with 68000 based add-ons. Includes 3 position switch, logic chip control protects ROMS and Gary chip, easy plug in fitting.

**Kickstart Swap Board**

PP 59.00

3 Position Version.

**Kickstart Swap Board**

PP 54.00

V 2 Position A500.

**M.A.S.T. 5.25" External Drive**

MAS CALL

**M.A.S.T. 68000 Accelerator**

MAS CALL

Runs at 25Mhz.

**M.A.S.T. CD ROM**

MAS CALL  
Over 600mb Toshiba mechanism inside MAST's own casing. Power supply and software included.

**M.A.S.T. Removable Hard Drive**

MAS CALL  
44mb, Syquest or Ricoh mechanism in MAST's own casing. Twelve month warranty.

**Matser 3A**

CMT 248.39  
External disk drive for use with A500 only.

**Megachip A2000/A500 2MB Chip Ram**

POP 526.68

**Memory Expansions 14MHZ**

PP 399.00

It is a combination of Accelerator and 8Mb board all in one. It

attaches to the 68000 socket. 14MHz + Shadow Ram

\$449.00

A1000/Phoenix Board Adaptor \$35.00

**Memory Expansions A500 Plus II 2MB Chip**

PP 119.00

This kit brings the A500 up to A3000 standards with 2Mb of chip RAM. Installation requires the A500 to be opened up. Kit with Ram AP504-4 \$249.00 Complete with AGNUS AP504-5 \$330.00.

**Microbotics .5 MB Board for A500**

POP 75.00

Microbotics .5 Mb (21 and over) call for price.

**Micromegs**

MAS CALL  
Alternative to A501. 512K ram and battery backed clock.

**Microtouch Plus Nex 3D**

GPS 3100.00  
Includes monitor.

**Microtouch Touch Screen**

GPS 1728.00  
Industrial quality "MicroTouch" (c) clear glass capacitive touch screens for any Amiga monitor. Provides serial output. Price ex-tax, without monitor.

**Minimegs**

MAS CALL  
2 Megabytes of external RAM for A500/A1000. Auto configure, low power, 1 Meg DRAMs, RAM tachometer, auto configure LED, compatible with A501.

**Minimegs A500/A1000**

MAS CALL  
2mb external memory. FAST RAM, Zero wait states, auto-configures. Also available in 8 mb.

**Octoplus A2000**

MAS CALL  
0 mb internal memory. Fast RAM, zero wait states, auto configures. Twelve month warranty.



**Parallel Port Adaptors**

PP 45.00

These permit cables and peripherals designed for either type of parallel port to be used with each other.

**Parallel Printer Cable**

CBM 12.00

**PC 286**

POP 502.74

**Personal Memory Card**

CBM CALL

**Phoenix Board 1 MB****Agnus PB**

PP 795.00

Complete replacement motherboard for the Amiga 1000 providing support for the 500 and 2000's best features and others not available on Amiga. 2 Mb Agnus PB-S. \$895.00.

**Phoenix SCSI Box**

PP 129.00

This external box connects to your SCSI hard disk controller to give you a second hard disk drive. Powered from the disk drive port and power activity LEDs. Any 1" high mechanism can be fitted.

**Pocket Ami**MCP TBA  
Portable MIDI unit.**Portable SCSI Interface**

MAS CALL

Suites A500, A1000, A2000, and A3000. Plugs into parallel port, pass thru for seven SCSI devices.

**Power Copy Pro III 10+**

POP 91.77

The Ultimate Disk Duplication System for the Amiga. Includes Power Hardware Device.

**Power Copy Pro III**

POP 105.07

**Quantum 1.2 GB**

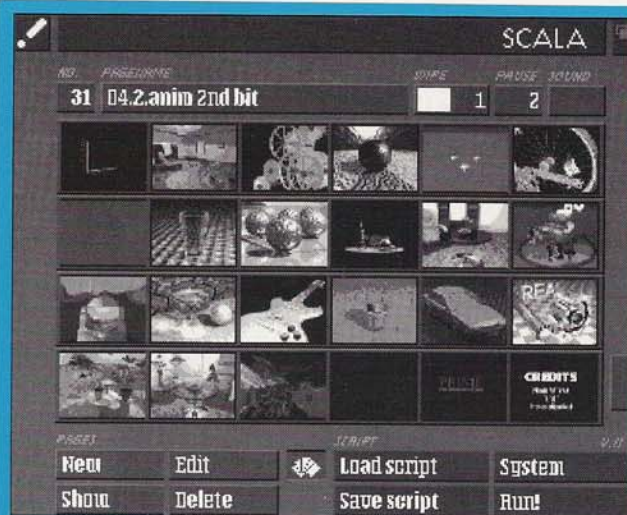
POP CALL

**Quantum 120 MB**

POP 859.18

**Quantum 240 MB**

POP 1436.40



Scala

**Quantum 420 MB**

POP 2457.84

**Quantum 52 MB**

POP 574.56

**Rendale A8806**

GPS 2200.00

Professional quality genlock suitable for videodisc and multimedia applications. Professional RGB and composite video out, extensive software control including chromakey on any of eight colours, genkill.

**RGB Colour Splitter**

DQS 230.00

**Rockhard External Disk Drive**

MCP 799.00

External hard drive for the A500. Forty megabytes upgrade to 2, 4 8 megabytes.

**Roclite 3.5" External Drive**

MCP 169.00

Also available in black \$179.00.

**ROM Switcher**

GSO TBA

Small circuit card that allows both Workbench 1.3 and the new 2.0 ROMs to be installed. Switch selectable.

**Sally**

CCS TBA

Realtime 24 bit buffer. Base unit

stores 1.5s of 24 bit video, expandable to 8.8s.

**Scala**

POP 425.60

Presentation and titling software. Includes 60 backgrounds, many fonts and 38 incredible video wipes and transitions.

**Scala Multimedia MM200 3+**

POP 425.60

**Scala Multimedia IV-24 EX**

POP 219.45

**Scala Multimedia Opal Ex**

POP CALL

**Scram 2000/8**

MMT 299.00

0 meg. 2 meg - \$449, 4 meg - \$599, 8 meg - \$899.

**Scram 500**

MMT 349.00

0 meg. 2 meg - \$449, 4 meg - \$599, 8 meg - \$899.

**Scram/16**

MMT 399.00

0 meg. 2 meg - \$499, 4 meg - \$649, 8 meg - \$949.

**SCSI Box + 20 MB HD**

PP 375.00

**SCSI Box + 52 MB HD**

PP 599.00

**SCSI Box + MB HD**

PP 799.00

**SCSI Card**

CBM CALL

**Sharp JX-100 Scanner (with S/W)**

DTU 1490.00

Sophisticated portable colour scanner giving 24-bit scans at up to 200 dpi. Works with bundled Scanlab software.

**Sharp JX-320 Scanner**

DTU 2643.00

Includes GPIB connector and requires Professional Scanlab. A4 format flat bed colour scanner. 24 bit scans, up to 300 dpi.

**Sharp JX-450 Scanner**

DTU 8795.00

Requires Professional Scanlab. A3 format flat bed colour scanner. 24 bit scans, up to 300 dpi.

**Sharp JX-600 Scanner**

DTU 22595.00

Requires Professional Scanlab.

**Sharp JX-730 Colour Inkjet Printer**

DTU 3073.50

Colour inkjet printer. Sophisticated technology with self cleaning nozzles. Individually replaceable colour refills. 180 dpi in bright colour.

**SII A2000 SCSI Mounting Bracket**

POP 66.50

**SIMM Memory for GVP SCSI/RAM Controllers**

POP 188.00

\$188.00 inc. per 2mb.

**Stereo Master**

CMT 118.72

**Stereo Speakers**

CBM 72.00

**Switch Box 3-way**

CMT 49.82

Centronics Connectors.



## Switch Box 4-way

CMT 49.82  
DB Connectors.

## Syncro Express A500 Internal/External

DQS 90.00

## Syncro Express A2000 Internal/External

DQS 105.00

## Syquest 44MB Cartridge

POP 215.46

## Syquest 88MB Cartridge

POP 319.20

## Syquest 88MB Removable

POP 1223.60

## Syquest External Power Supply Case/Cable

POP 313.88

## Syquest Removable Hard Disks

POP 957.60  
44mb. Will connect to all GVP  
SCSI controllers. Fast reliable  
backup and extra storage solu-  
tion.

## The Answer

GSO 145.00  
Interface your Amiga sound out-  
put to the telephone line. When  
coupled with a sound sampler,  
allows full answering machine  
functions. All Australian product.

## The Answer Plus

GSO 299.00  
As The Answer but packaged  
with Audio Engineer Junior.

## Tiny Tiger II

MAS CALL  
Portable SCSI hard drive, 45mb,  
90mb, 136mb and 182mb.  
Slimline.

## Touch Window 2 Way Kickstart Swap Board

MVB 39.00  
Suits A600, A500, A2000 the Midi  
Interface is \$69.95. It suits all  
Amiga models.

## Twin Drive

MAS CALL  
Two 3.5" drives in slimline case.  
Same features as the Unidrive.

## Ultraslim 3.5" External Drive

MCP 159.00

## Unidrive

MAS CALL  
Slimline 3.5" no-click drive, pass  
thru, on/off switch. Upgradable  
to Enhanced Unidrive, 12 month  
warranty.

## Unidrive Enhanced

MAS CALL  
Slimline 3.5" drive, track LED dis-  
play, hardware virus protection.

## Utility Station

CMT 22.81  
Universal size monitor stand and  
keyboard space saver. Heavy  
duty plastic coated wire.

## Value Pack

CMT 29.87  
Contains Mouse Mat, Computer  
Hand II, Mouse Holder and  
Mouse House Max.

## VXL RAM-32 2MB

POP 638.40

## VXL RAM-32 8MB

POP 1484.28

## VXL-30 25 68030

POP 638.40

## VXL-30 25 MHZ 68030, 68881

POP 893.76

## Wangtek SCSI Tapedrive

POP 1396.50  
150/250Mb.

## XT Emulation Card

CBM 499.00

## Y-Drive Double Adaptor

PP 35.00

The Y Drive double adaptor al-  
lows you to plug two external  
drives into one drive socket. Use-  
ful for drives without pass  
throughs.

## INTEGRATED

### All-in-One

DAT 99.95  
Allows you to write, paint, create  
music and play games. Consist-  
ent easy to use graphical inter-  
face and concise pull-down  
menus. Includes WRITE, PAINT,  
MUSIC, and Silhouette, Bouncer-  
Shaker and Intrigue.

### Gold Disk Office

DAT 399.95  
Turns your Amiga into a fully in-  
tegrated, easy-to-use and highly  
productive office. Includes eve-  
rything you need for word  
processing, database manage-  
ment, spreadsheet calculations  
and business graphics. Needs  
one mb.

## Mini Office

PAC CALL  
Integrated home office - word-  
processor, database, spread-  
sheet and graphics, plus disk utili-  
ties.

## Powerworks

DAT 299.95  
Includes three separate programs  
in one package. Maxiplan Plus,  
KindWords and InfoFile.

## The Works!

CMT 93.10  
Scribble!, Analyze!, Organize! all  
in one package.

## The Works! Platinum

CMT 166.65  
104,000+ spelling checker,  
470,000+ thesaurus, prints IFF  
graphics, spreadsheet module,  
database module, telecommuni-  
cations module, sideways print  
utility.

## LANGUAGE

### AC Basic

CMT 186.20  
Compiler, fast with graphics. In-  
dexed documentation. Compat-  
ible with AmigaBASIC interpreter,  
runs up to 50% faster.

### AC Fortran

CMT 278.37  
Implemented to ANSI 77 Fortran  
standard. Includes debugger,  
linker, library manager, runtime  
library, IEEE math and C inter-  
face.

## Amos 3D Extension

PAC  
Generate outstanding 3D effects.  
Amos 3D adds more than 30 new  
commands to Amos BASIC that  
allow you to manipulate objects,  
animate objects or points or even  
animate surface details. Speeds  
up to 25 frames per second

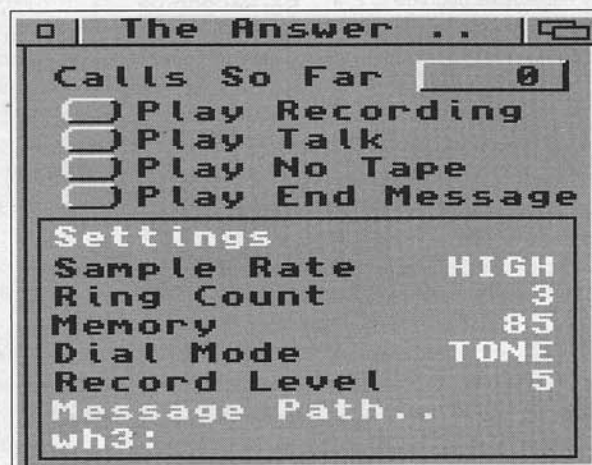
## Amos Compiler

PAC  
Turns your Amos source code  
into fast machine code execut-  
able directly from the CLI or  
Workbench without requiring the  
Amos libraries or Amos itself.

## Amos Easy

PAC CALL

The Answer





Mini Office

**Amos Professional**

PAC CALL

**Amos the Creator**

PAC 140.00  
Full development language for the Amiga, over 500 different commands using a simple BASIC like structure. Animation, sound and graphics are handled with ease. On-line support to registered users thru Pac is free.

**Amos Tome Series IV**

ACS 75.00

**Amos Tome V3.2 to Series IV**

ACS 20.00  
Upgrade.

**ARexx**

CMT 83.79  
Task intercommunication port - will be standard in WB1.4. Enables one application to send commands to another - integrate programs of a similar nature.

**Assempro**

PAC 169.00  
Integrated assembler, disassembler, debugger & editor.

**Blitz Basic**

MAS CALL  
Alternative fully integrated BASIC. Faster and includes built-in compiler. Commands to handle everything you need to make a top class game.

**Blitz Basic Professional**

MAS CALL

**Can Do V2.0**

MVB CALL  
New.

**CanDo Intro Pack**

DTU 52.00  
Tutorial intensive package designed to get new CanDo users up to speed as quickly as possible. Includes 7 CanDo decks on disk and a manual. Information on installation, tool-type settings, technical topics etc.

**CanDo Pro-Pak**

CMT 55.86  
Examples of CanDo generated programs, called 'decks'. Includes freely redistributable IFF resources and utilities and extensions to CanDo.

**CanDo V1.5/1.6**

DTU 185.14  
Object based programming. Powerful scripting language and well-integrated ARexx interface. Desktop Utilities registration includes a year's free membership to the CanDo User Group.

**Devpak V2.0**

CMT CALL  
Edit/Assemble/Debug. Assemble source up to 70,000 lines per minute, editor runs under intuition - menu/ keyboard control. Requires Kickstart 1.2 or later.

**G.F.A. Basic 3.5**

CMT CALL  
Over 300 commands, inline C and assembler commands, extensive Amiga commands with sub-menus and built-in file requester and runtime interpreter.

**G.F.A. Basic Compiler**

CMT CALL

**Hisoft Basic**

CMT 185.27  
Editor/compiler, selective runtime routines, symbolic debugger. Allow compatible C or assembler code incorporated as functions/subroutines.

**Hisoft Basic Extend**

CMT 74.48

**Hisoft Basic Pro**

CMT CALL

**Hisoft C Interpreter**

CMT 129.01

**Hisoft High Speed Pascal**

CMT 259.75

**Interface Design Kit**

CMT CALL

**Lattice C ++**

CMT CALL

**Lattice C Development System**

CMT CALL

**Lattice C V5.10**

PAC 399.00  
Comprehensive C language development system for the Amiga. Includes CodeProbe (source level debugger), Code Profiler, Global Optimizer plus Unix-like utilities.

**Metascope**

DTU TBA  
Application program debugger that provides a multi window en-

vironment to observe and control the execution of your application program. Gives breakpoint to trace capabilities, full symbolic support and more.

**Modula 2 (Benchmark)**

CMT CALL  
Integrated compiler, linker and EMACS editor. Compiles at 10,000 lines per minute with burst speeds of up to 30,000 lines/minute. Support AmigaDOS, Intuition, Excel and Modula 2. 700 pages of documentation.

**Modula 2 C Language Library**

CMT CALL  
Add-on library product for Benchmark Modula 2. C language library functions.

**Modula 2 IFF/Image Resource Library**

CMT CALL  
Add-on library product for Modula 2 Benchmark. Access images at run-time as resource from Modula 2.

**Modula 2 Simplified Library**

CMT 93.10  
Simplify creation of intuition screens, windows, gadgets and menus. Includes functions for double-buffered animation, bobs, sprites, speech, console and device.

**Modula 2 Source Level Debugger**

CMT CALL  
An interactive, mouse driven, source level debugger. Includes other advanced programming tools.

Amos Professional





## Power Windows

DTU 119.00  
Create custom screens, multiple windows and more, then generate source code for installation in original programs.

## SAS "C" Development System V6.0

CMT 417.62  
SAS/C Compiler for AmigaDOS (formerly Lattice C). Complete programming environment with Compiler, global optimizer, blink overlay linker, LSE screen editor, source level debugger, documentation and more.

## Visionary

CMT 119.70  
This program is specifically for the creation of text, sound and animated graphic adventure games. High-speed compiler and fully interactive debugger. From Aegis. Intuition interface available separately.

## MOUSES AND JOYSTICKS

### 4 Way Joystick Adaptor

CMT CALL  
Enables four joysticks to be connected simultaneously for games which support four players.

### Alfa Data Mouse

AMI 89.00  
Optical mouse. Switchable Amiga/ST. 3 buttons.

### Alfa Data Trackball

AMI 125.00  
Switchable Amiga/ST. 1.5m cord.

### Amiga 1352 Mouse

CBM 99.00

### Amiga 4-Way Joystick Adaptor

CMT 24.88

### Amiga M4 Mouse

PAC 49.95  
Specifically designed mouse to withstand constant handling. Uses brass rollers to eliminate the rusting problem common on other mouses.

## Amiga Micro Mouse Board

PP 25.00  
Designed to replace the original spring plate board on Commodore mice. It contains two quality micro switches on a PCB designed to fit directly in place of the original Commodore mouse spring plate.

## Amiga Mouse

MAT 39.95

## Amiga Optical Mouse

MCP 99.00

## Analogue Joystick Adaptor

PP 35.00  
Enables the use of any joystick on the Amiga computer. Makes using flight simulators just like the real thing.

## Beetle Mouse

AMI 38.00  
High resolution 320 DPI mouse. Available in a range of colours.

## CG220AQ Joystick

PAC 19.95  
Autofire and microswitch. Suitable for C64, Amstrad CPC, Atari and Amiga.

## Competition Pro Extra

CMT CALL  
Joystick with autofire.

## Competition Pro 5000 Clear

CMT CALL  
Sturdy design, see-thru body and steel shaft with micro switches. Also has non-skid feet.

## Competition Pro Phantom

CMT CALL  
Joystick Black and white.

## Competition Pro PC

CMT 49.82  
Joystick Beige with Grey highlights.

## Genius GM-7E Mouse

PAC 39.95  
One of the world's largest manufacturers of mice, has developed this attractively styled, solidly built

and economical mouse.

## Genius Triple Mouse

PAC 89.00  
Switchable Amiga/ST/Amstrad. Microswitched. 2 buttons.

## Golden Image Brush Pen

AMI 39.00  
The mouse in the shape of a pen. Great for fine work in drawing programs, comes with mouse accelerator program.

## Golden Image Cordless Mouse

AMI 99.00  
Communicates with receiver connected to mouse port.

## Golden Image Cordless Trackball

AMI 145.00  
Large ball, 3 buttons, communicates with receiver connected to mouse port.

## Golden Image Mouse

AMI 45.00  
Opto mechanical with 290 dpi resolution and microswitch buttons. Optional Deluxe Paint II.

## Golden Image Optical Mouse

AMI 99.00  
Optical mouse with 250 dpi resolution and weighing only 85 grams. 3 buttons.

## GX112 Joystick

PAC 9.95  
Suitable for C64, Amstrad CPC, Atari and Amiga. Autofire.

## Infrared Mouse

MAS CALL  
Cordless mouse for all Amigas.

## Jin Mouse

AMI 35.00  
Large, fairly comfortable, metal rollers.

## Mouse House

CMT CALL  
Universal mouse cover. Max - Grey, Millie - Pink.

## Mouse Shoe

PAC 4.95

## Mouse Doctor

CMT 18.90  
Mouse Cleaning Kit.

## Mouse I/R

CBM CALL

## Mouse Mat

CMT 8.92  
225 mm x 260 mm.

## Mouse/Joystick Switch

CMT 79.75

## Naksha Mouse

CMT CALL  
Replacement mouse for all Amigas.

## Pan Mouse

KK 39.00  
Microswitched, brass rollers, Amiga/ST, 1.3m cord.

## RMT120G Joystick

PAC 19.95  
Autofire and microswitch. Suitable for C64, Amstrad CPC, Atari and Amiga.

## Roctec RM300C Mouse

AMI 35.00  
Opto-mechanical, microswitches, good length cord.

## Starblazer Joystick

MUL 44.95  
Auto fire, top fire button.

## Starcursor Joystick

MUL 59.95  
Solid construction, 3 yr guarantee, 3 fire buttons, suction caps, quality switches. Recommended! (Split button and 8/4 way selector).

## Swiftly Mouse

KK 49.00  
Opto-mechanical, microswitches, Amiga/ST, 3 buttons.

## Trackball Controller I/R

CBM CALL

## MULTIMEDIA

## Aladdin Lighting Controller

PP 1595.00  
Aladdin is a powerful and sophisticated 48 channel lighting con-



trol system with features which meet or exceed the capabilities of dedicated consoles more expensive.

48 Channel \$4800  
96 Channel and enhancements \$5600

### Amiga Vision

CBM 149.00  
Create interactive presentations for education and training. Also ideal for video titling. Various transitions between screens. Anim OPT 5 support. DBase compatible database.

### Mediashow

DAT 125.95  
A multi-media sequencer which allows you to combine and sequence animation, graphics, music and sound effects into movies and presentations. Also has built-in video titler. Requires one megabyte.

### Presentation Master

CMT 343.54  
Sequence presentation graphics, animation and assorted transitions to create full interactive presentations. Powerful drawing tools and text positioning power.

### Video Director

MVB CALL

## MUSIC

### A.M.A.S. Sound Digitizer

CMT CALL  
Advanced MIDI and sampler. Suit A500/2000.

### Acord

DQS 10.00  
Teaches and tunes guitars.

### Alter Audio

CBM 249.00  
Includes MIDI interface, DR T's Tiger Cub and necessary cables. MIDI keyboard suggested.

### Amas 2

CMT CALL  
Advanced Midi & Sampler. Suit A500/2000.

### Amiga Midi Interface

CBM 99.00

### Audio Digitizer AP420

PP 55.00  
It is designed for compactness and low price. Measuring 2.5" by 1.5" it plugs directly into the parallel port. I/O BOARD FOR PARALLEL PORT AP400 \$160.00

### Audio Engineer

GSO 99.00  
Sound sampling and editing software suite. Supports stereo or mono at sample rates of up to 56,000 samples per second. V2 supports 4 times oversampling, stretch/ compress samples in time without affecting pitch.

### Audio Engineer Gold

GSO TBA  
Bundled with a special version of Audio Engineer. A sampler card that installs inside either A2000/A3000. 56,000 samples in stereo, dynamic range compression on recording/dynamic range expansion on playback.

### Audio Engineer Plus

GSO 369.00  
For the serious or professional user. Features printer pass-thru, MIC and line inputs and up to 56,000 sample per second rates in stereo. Packaged with Audio Engineer. For A1000/A500/A2000/A3000.

### Audio Engineer Junior

GSO 189.00  
Audio Engineer packaged with mono sampler. Microphone and line inputs provided with electronic level control. For A1000/A500/A2000/A3000 computers.

### Audio Master IV

GSO TBA  
See entry for Audio Engineer. Audio Engineer is sold and marketed in the USA as Audio Master.

### Bars&Pipes Accessories Disk

CMT 27.93

### Bars&Pipes

MIN 249.00  
Includes Pipeline, The Toolbox, The Sequencer, and The Editor. First icon-based, object-oriented musical composition environment. Requires one megabyte.

### Bars&Pipes Add-on Series

DAT 79.95  
Consists of five collections of Tools and Accessories to enhance Bars&Pipes. Includes MusicBox, The Internal Sounds Kit, Rules for Tools, MusicBox B, and The Multi-Media Kit.

### Bars&Pipes Professional

CMT 464.57  
Icon based, object oriented musical composition environment. Co-ordinate music with video, film, tape recorders and other computer applications. Reads and writes standard MIDI file format. Req. 1mb/MIDI i'face

### CD Remix

CMT CALL  
Lets you take your favourite music CD and resequence pieces to make your own extended tracks/remixes. Icon driven language. Over 100 different samples are included.

### Daudio

GPS 50.00  
Plays stored audio sound direct from hard disk. Unlimited file sizes. Four channel selections plus other options. Supports AudioMaster sequences. Compatible with most Amiga authoring software.

### Deluxe Music Construction Set

CMT 90.44  
Includes MIDI, cut and paste, on screen keyboard and print-out options. 15 IFF sampled sounds.

### Dr. T's Copyist Apprentice

CMT CALL  
Print music and scores on a dotmatrix or laser printer.

### Dr. T's Copyist DTP

CMT CALL  
Full Postscript laser printer output of music scores.

### Dr. T's Esqapade

CMT 93.10  
Graphic editor/librarian for the ESQ-1 and SQ-80.

### Dr. T's KCS Level II

CMT 278.37  
Does everything of the basic program plus 16 more screens of algorithmic and global editing.

### Dr. T's Keyboard Control Sequencer V3.5

CMT CALL  
Plus Level II. Three modes of operation - track, open and song. Edit options include merge, echo, solo and mute. Controlled through screen-displayed tape recorder.

### Dr. T's Midi Recording Studio

CMT 46.55  
Mouse activated. Use keyboard as well as true external MIDI devices as a musical keyboard. Mute and unmute tracks, cut, copy, paste or transpose, no print out.

### Dr. T's Model A Midi A500/2000

CMT CALL

### Dr. T's Music Mouse

CMT 46.55  
Musical composition using the mouse. Internal sounds or MIDI data are created according to mouse movements. Ideal for beginners or for the experienced to improvise and explore.

### Dr. T's Tiger Cub

CMT CALL  
A 12 track sequencer with realtime graphic editing and standard musical notation which can be printed out too. Optional MIDI output. For the beginner or semi professional.

### Dr. T's X-or Editor

CMT CALL

### Harmoni

DAT 149.95  
MIDI sequencer which allows you to create multiple tracks of MIDI music which you can edit, combine into songs and then replay on your MIDI keyboard.

### JAM

MVB CALL



**Kawai Funlab Music System**

KAW TBA  
Keyboard 61 note, built-in stereo speakers, 100 diff sounds, 100 rhythms. Software 5 track sequencer (allowing overdubbing and multitrack recording) with music notation display, lyric display, Compact MIDI interface.

**Midi Connector**

DAT 99.95  
MIDI interface which allows you to send and receive digital data. Chain several instruments together and use a simple MIDI sequencing program to play them all back at the same time.

**Miracle Piano System**

MIN 700.00

**Miracle Song Collection Vol 1**

MIN 79.95

**Miracle Song Collection Vol 2**

MIN 79.95

**Perfect Sound V3.0 A500/A2000**

CMT CALL  
A two channel stereo audio digitiser with complete sound editing software and library of pre-recorded sounds. Compatible with most musical programs.

**Quartet**

CMT 83.79  
With Quartet your Amiga becomes a four voice polyphonic synthesiser and recorder. Allows playback of up to four instruments simultaneously, makes four channel composition easy.

**Sonix**

CMT 74.48  
Digital synthesizer supports eight MIDI voices, up to 32 channels, and IFF format, create, modify, edit. Save to disk or dump to printer as sheet music.

**Sonix Soundtrax Vol 1 & 2**

CMT 37.24  
Each volume contains two disks of songs crated with sampled instruments. Interacts with Sonix.

**Sound Master Plus**

CMT 298.27  
Digitiser, includes AudioMaster IV.

**Stereo Sound Sampler**

DQS 120.00

**Super Jam**

MVB 159.00

**SPREADSHEET**
**Advantage**

DAT 275.00  
Spreadsheet, database, presentation graphics program which includes ARexx support, macro commands, precise output control. Select from pre-configured 16 colour templates.

**DG Calc**

PAC 89.95  
Menu/command driven, individually adjustable columns, integrates with other programs, windowing, 52 user defined variables, 9 programmable function keys.

**Flipside**

CMT 37.24  
Prints spreadsheets of unlimited size. Sideways print utility.

**Maxiplan Plus**

CMT CALL  
Includes a macro feature and additional utilities as well as features of MaxiPlan 500.

**Professional Calc**

DTU CALL  
New, many features.

**P-Stat**

CMT CALL  
Interactive statistical data analysis package designed for marketing research and academic situations, offers over 50 statistical functions and 25 graph types, including animated charts. Power limited only by RAM.

**UTILITY**
**ACC Monthly Disks**

AUA 8.00  
5 TO 21.

**ACC Monthly Disks**

AUA 10.00  
22 ONWARDS.

**ACC Special**

AUA 15.00

**Action Replay MK II**
**A500**

DQS 160.00  
Machine code monitor, assembler & disassembler, picture grabber, picture modifier, memory grabber, program saver & more.

**Action Replay MK II**
**A2000**

DQS 175.00  
Machine code monitor, assembler & disassembler, picture grabber, picture modifier, memory grabber, program saver & more.

**Add Menu Plus Icons**

DQS 49.95  
Ultimate Hard Drive menu system for the Amiga, adds infinite number of menus to tools menu, each menu can have a custom set of on-screen icons, Script program launching from CLI or WB is automatic, more features.

**Advanced Screen Designer**

MVB 12.00

**Ami-Back 1.4**

CMT 120.00  
Hard disk backup utility. Backup & restore hard drive quickly & conveniently. Run on any Amiga running AmigaDOS 1.3 or 2.0. NTSC/PAL compatible.

**AmiFastBack**

AUA 30.00

**Amiga AS214 V2 Software**

CBM 149.00

**Amiga Enhancer 1.3 Kit**

CBM 39.00

**Amiga Virus Protection Toolbox**

PAC CALL  
Includes Boot Check, Recover, Change Control Checker, Check New. For all Amigas with Workbench 1.2 and 1.3.

**AmigaDos Toolbox**

PAC 99.00  
A collection of essential, powerful, and easy-to-use software

tools for the user who wants to overcome some of the Amiga's drawbacks.

**Amnuts**

AUA 20.00

**Block Designer**

AUA 10.00

**Broadcast Titler Hi Resolution**

MVB 469.00

**Canon BJ300/330 Printer Driver**

GPS 50.00  
Works for all Canon BJ series from BJ10 to BJ330. Supports printer densities up to 360 by 360 dpi. Compatible with PageStream and Professional Page. Special double density 360 x 360 mode for desktop publishing.

**Canon BJC800 Colour**

GPS 100.00  
Amiga printer driver for Canon BJC800 full colour A3 bubblejet printer. Supports densities up to 360 x 360 dpi. Prints 24bit colour with Art Department Pro.

**Canon FP510 Printer Driver**

GPS TBA  
Amiga printer driver for Canon FP510 full colour inkjet printer. Supports gamma correction of printed image for computer graphics, video capture and scanner input.

**Cape 68K Assembler**

DTU 119.00  
Version 2.5. Fast, fully, documented Amiga assembler environment. Includes linker, profiler and disassembler. Integrated editor. "Stop on error" and "assemble from buffer" functions.

**CrossDOS 5.0**

CMT 93.10  
MS-DOS filing system. Read, write, format & copy MS-DOS or Atari disks with standard Amiga drives. Transparently access MS-DOS files from any application.

**Cygnus ED Professional**

DTU 129.00  
Fast and powerful text editor. For

writer or programmer. Macro facility. Arexx port. File recovery. Cut & paste vertical blocks (columns). Autosave, printer function. Version 2.12. Multiple undo/redo.

### Deja Vu Software

ACS 14.00

### Dianetix Vol 1, 2, 3,

DQS 10.00  
Add on disks for Red Sector Demo.

### Disk Mechanic

CMT 74.48

### Disklock WB1.3

AUA 20.00

### Disklock WB2.0

AUA 20.00

### Diskmaster II

CMT 83.79  
Excellent utility for file manipulation. Sits on own screen, two DIRs displayed, COPY, RE-NAME files. Format or DISKCOPY. View images, play samples. Easy to use.

### Display Enhancer

CBM 399.00

### DOS 2 DOS

CMT 93.10  
File transfer. Transfers all file types from PC/MS-DOS to AmigaDOS and vice versa. Handles 3 1/2 and 5 1/4 " formats.

### Dunlap Utilities

CMT 74.48  
Forty Workbench utility programs. Fix hard drive error, recover deleted files, keyboard macros, file house keeping utilities.

### FACC II

DTU 45.00  
Floppy disk accelerator. Intelligent disk caching for up to 4 floppy drives with dynamic control over buffers. Add/remove buffers via control panel or CLI. Faster than AddBuffers.

### GIGA MEM

MVB 149.00

### HyperHelpers

CMT 55.86  
AmigaDOS online help (1.3 and

2.0). Run-N-Play, the "I wish" file requestor which runs programs, plays sounds etc., Launchpad, a small window on Workbench with a menu to run packages.

### Intuimenu V3

AUA 12.00

### Mac 2 DOS

MVB 129.00  
Requires external Mac drive. Enables you to read & write Mac format disks. Various translation of ASCII possible. Transfers graphic files. Includes interface.

### Master Virus Killer V2.2

AUA 15.00

### Novirus

DQS 49.95  
Australian Virus hunter and killer.

### Pixel 3D Professional

MVB 239.00

### PRT24

GPS TBA  
Prints Amiga 24-bit IFF graphics on the Canon FP510 full colour printer. Support for 256,000 colours per image. Video, scanner and computer generated image gamma correction.

### Quarterback Tools V1.5

MVB 84.95  
Maximizes the speed and reliability of hard disks and floppy disks by repositioning files to optimum locations on the disk which eliminates file fragmentation and consolidates disk free space.

### Quarterback V5.02

MVB 69.95  
HD Utility. A fast backup-20MB in 30 minutes or less. Handles files of unlimited length, subdirectories, and files per subdirectories. Select by file restoration.

### RunMe V2.1

AUA 10.00

### RX Tools

CMT 83.79  
Tools for ARExx. Implement extensions for windows, gadgets, requesters and more. Full ARExx editor included.

### School Timetable

AUA 7.00

### Screen Designer

AUA 10.00

### Speed Menu

DQS 39.95  
Hard Drive menu system.

### Sprite Designer

AUA 10.00

### Superback

DAT 99.95  
Hard drive backup utility. Selectively copy any or all of the files and directories from your hard disk, RAM or network device onto floppy disk. Backs up 20 megabytes in 20 minutes. Restores data selectively.

### TCP/IP Software

CBM 149.00

### The Ambassador

DTU 99.00  
Improves file transfer capability for both Bridgeboard and Amiga, provides transparent access from Amiga to MSDOS data as with CrossDOS, including Bridgeboard connected drives.

### Turbo Text

CMT 110.39  
A text editor which allows you to customise the editor to any compiler including C, Pascal and Modula II. Macros, hex edit window, complete outlining, text templates, complete remapping of keyboard and menus etc.

### Unix Operating System

CBM 699.00  
For A3000.

### X-Backup Professional

CMT CALL

### X-Copy Professional

CMT CALL  
Many new features; includes hard disk and file backup. Copies protected disks. Handles multiple drives. Verify option, good error detection and audible notification of finished copies.

## WORD PROCESSING

### Baby

CMT 27.93  
1.4 million word Thesaurus. Spell check documents from word processors with no spell check support.

### Electric Thesaurus

DAT 69.95  
Contains over 500,000 synonyms. Offers concise definitions and includes part-of-speech and a list of accurate synonyms in their properly inflected forms. Roget's II Electronic Thesaurus database.

### Excellence V3.0

MVB 119.00  
Convenience, features & speed.

### Final Copy V2.0

MVB 149.00

### Final Copy Softfaces

#### Vol 1, 2, 3, 4

MVB 99.95EA

### Fleet Check

CMT 27.93  
Spell checker.

### Flow

CMT CALL  
Database or outline processor. Idea processor. Assists in creating sales reports, school papers & novels, plan business strategies and schedule appointments.

### Flow Lab Pack

CMT CALL

### KindWords

DAT 99.95  
WYSIWYG wordprocessor that can print both graphics and text, 90,000 word spelling checker, selection of font sizes.

### Pen Pal

DAT 229.95  
Word processor, database, forms generator. Supports 4096 colours output and IFF pictures. Includes a 100,000 word spelling dictionary, search/replace and more.

### ProText

PAC 199.00  
Includes background printing and 45,000 word spelling checker and



mail merge. Version 4.1 is much improved. Text based - a fast, solid editor.

## ProWrite French Dictionary

CMT 46.55

## ProWrite Lab Pack

CMT CALL

## ProWrite V3.3

MVB 119.00  
Generate proposals with charts, 95,000 word spelling checker, mailmerge, fast graphics printing. WYSIWYG. Full postscript support, import IFF graphics. Workbench 2.0 style interface, AREXX support.

## Quik-Write

MVB 52.95

Entry level wordprocessor. Advanced mail merge, spell checker with a 50,000 word dictionary, macros, AREXX port and automatically updates date and time markers. Complete control over printing and more.

## Quik-Write Lab Pack

CMT CALL

## Scribble Platinum

CMT 55.86  
WYSIWYG IFF graphic support. 104,000+ word spelling checker, 470,000 thesaurus with definitions, multiple windows, cut and paste, mail merge.

## Transwrite

DAT 95.00  
Allows you to quickly generate

and edit lengthy or multiple documents. Built-in 90,000 word TransSpell spell-checker, automatic index and mail merge, search and replace, cut, copy, paste. Use with Professional Page.

## WordPerfect Classroom Packs

SWA  
Includes manual, licence and templates. For 10 students - \$469, 20 students \$630, 30 students - \$770.

## WordPerfect Library 2.0

SWA 199.00  
Organise appointments, notes, files and programs. Includes Calendar, Notebook, Calculator, File Manager, Program Editor.

## WordPerfect V4.1 English

SWA 360.00  
Very full-featured program with drivers for almost any printer made. Ported from IBM and Amiga-ised. Speller and thesaurus included. Available with British dictionary. Book shelf style ring-bound manual.

## WordWorth 2.0

PAC 299.00  
Workbench 2.0 look-alike interface, complete range of document processing functions. Features Human Interface Protocol (HIP), 116,000 British spell checker, supports PAL displays, multiple fonts, graphic import.

# Distributors Key

## ACS

Allen Computer Supplies  
432 Dorset Rd  
Croydon Vic 3136  
Tel: (03) 725 3379, Fax (03) 723 1780

## ADC

Avtek Data Communications  
Block A, 25 Paul Street North  
North Ryde NSW 2113  
Tel: (02) 888 5333 Fax: (02) 887 2839

## AUA

AmigaNuts United Australia  
199 Taylor St  
Toowoomba Qld 4350  
Tel/Fax: (076) 331 172

## CBM

Commodore Business Machines  
67 Mars Rd  
Lane Cove NSW 2066  
Tel: (02) 428 7666 Fax: (02) 428 3607

## CCS

Color Computer Systems Pty Ltd  
18 Appleby St  
Balcatta WA 6021  
Tel: (09) 349 6492 Fax: (09) 349 5155

## CMA

Computamart Pty. Ltd.  
42 Dickson Ave  
Artarmon NSW 2064  
Tel: (02) 906 8887 Fax: (02) 906 5577

## CMT

Computermate  
9 High Street  
Mt. Kuring-Gai NSW 2080  
Tel: (02) 457 8118 Fax: (02) 457 8739

## CMR

Computa Magic  
44 Pascoe Vale Rd,  
Moonee Ponds Vic 3039  
Tel: (03) 326 0133 Fax: (03) 370 8352

## DAT

Dataflow  
15 Merton St  
Zetland NSW 2017  
Tel: (02) 310 2020 Fax: (02) 319 2676

## DQS

Don Quixote Software  
PO Box 786, 25a Russell St  
Toowoomba Qld 4350  
Tel: (076) 39 1578

## EA

Electronic Arts  
4/46 Smith St  
Southport Qld 4215  
Tel: (075) 911 388

## FRD

Fordray  
PO Box 1265  
Orange NSW 2800  
Tel: (063) 629 901 Fax: (063) 628 675

## GPP

Gareth Powell Publishing  
21 Darley Road  
Randwick NSW 2031  
Tel: (02) 398 5111 Fax: (03) 398 5322

## GPS

GP Software  
21 Allooomba Road  
Ashgrove Qld 4060  
Tel: (07) 366 1402 Fax: (07) 366 1402

## GSO

GSoft Pty Ltd  
PO Box 59  
Elizabeth SA 5114  
Tel: (08) 254 2261 Fax: (08) 254 2261

## KAW

Kawai Pty Ltd  
Unit 8, 44 O'Dea Ave  
Waterloo NSW 2017  
Tel: (02) 663 0571 Fax: (02) 662 4726

## MAE

Maestro Pty Ltd  
Unit 2, 13-15 Townsville St  
Fyshwick ACT 2609  
Tel: (06) 239 2369 Fax: (06) 239 2370

## MAS

M.A.S.T.  
8 Shepherd St  
Broadway NSW 2008  
Tel: (02) 281 7411 Fax: (02) 281 7417

## MCA

Multicoon Amusements Pty. Ltd.  
17 Wrights Place  
Labrador Qld 4205  
Tel: (075) 375 711 Fax: (075) 37 3743

## MCP

Matrix Computer Products  
Unit 10/21-29 Chester St,  
Camperdown NSW 2050  
Tel: (02) 550 4688 Fax: (02) 550 4663

## MEG

Megadisc  
P.O. Box 759  
Crows Nest NSW 2065  
Tel: (02) 959 3692 Fax: (02) 899 2348

## MIN

Mindscape International  
5 - 6 Gladstone Road  
Castle Hill NSW 2154  
Tel: (02) 899 2277 Fax: (02) 899 2348

## MUL

Multicoon Aust. Pty Ltd  
17 Wrights Place  
Labrador, Qld 4125  
Tel: (075) 37 5711 Fax: (075) 37 3743

## MVB

MVB Computer Supplies  
506 Dorset Rd  
Croydon Vic 3136  
Tel: (03) 725 6255 Fax: (03) 725 6766

## OT

Opal Technology Pty Ltd  
PO Box 117, Castle Hill NSW 2154  
Tel: (02) 899 4322 Fax: (02) 899 5749

## PAC

Pactronics Pty Ltd  
98 Carnarvon St  
Silverwater NSW 2141  
Tel: (02) 748 4700

## PML

Pacific Microlab  
197 Pitt St Mall  
Sydney NSW 2000  
Tel: (02) 223 2433 Fax: (02) 223 4669

## POP

Power Peripherals  
1st Floor, 257 Hawthorn Rd  
Caulfield North Vic 3161  
Tel: (03) 532 8553 Fax: (03) 532 8556

## PP

Phoenix Peripherals  
18 Hampton Rd  
Kew SA 5035  
Tel: (08) 293 8752 Tel: (08) 293 8814

## SWA

Sourceware  
Unit 1/6 - 8 George Place  
Artarmon NSW 2064  
Tel: (02) 427 7999 Fax: (02) 427 7255

## WH

Dr Walter Howse  
Director of Howse  
c/- Murdoch University  
Murdoch WA 6150  
Tel: (09) 360 2630 Fax: (09) 310 5543

# Public Domain Software

***Almost free - a very good price. There's plenty of it too! But why so cheap and why so much? Andrew Farrell explains what public domain and related software is all about.***

**O**ut there in the big bad world, software can cost as much as your computer. Corporations spend tens of thousands of dollars developing new titles, documenting, packaging and marketing. Add to that Australia's remoteness and small market size, and you have a number of good reasons why commercial software has remained an expensive proposition.

There is an alternative. It's called public domain software. Developed by backyard programmers primarily for fun, the quality is on average a cut below the real heavyweight titles. However, there are exceptions which out-perform their commercial rivals.

Public domain software is not all free. Some is not really PD. Some is most definitely commercial. Let me explain.

## Sort of Public Domain

Public domain software in the true sense is not copyright. In other words, any one can make a copy of or do anything they want with the program. The author relinquishes all control over the software.

However, a lot of programmers were not happy with this definition, and invoked a slightly modified form of idea. Using complex license agreements which stipulate how the program may be distributed, they try to control who may sell and for how much their programs may be sold. There's often a 'not for commercial use' clause thrown in to stop the big boys exploiting their efforts.

The bottom line is, Amiga owners continue to enjoy access to a huge range of programs which may be bought for little more than the cost of duplication, delivery and media. This is a fantastic resource.

## Not Public Domain

Through the same channel you will also see programs which are demo versions of commercial products. Some of these are crippled in some way. Others are early version with features missing. By sending money direct to the author - normally close to what you would expect to pay retail anyway, you get the full program and some level of support. This is often called shareware.

Some shareware is fully functional, and works on an honour system. If you use the program, you're supposed to send the author a small fee as payment. In return, you might get a slightly newer version and additional documentation.

## The Big Collections

Throughout the world, different libraries of public domain software have been established. Some are famous. In Europe 17 Bit Software have a huge number of disks, over 2,500. The quality and format of each varies, and the brief seems to be to put every program, graphic, animation or hacker demo they find onto a disk and add it to the list. Much of what appears in this collection may not actually be freely distributable. Many disks contain music or images captured from television, films and music - none of which is non-copyright even in this altered form. A recent test case proved this to be so.

Another huge collection, around 770, less renowned for its pizzazz and more for the steady flow of good quality utilities, screen hacks and productivity programs is called the Fish Library. This is because the library is compiled by a man named Fred Fish. Most of the programs in this collection originate in the United States.

There are many other collections, most of which cross over heavily with 17-bit and Fred Fish. In Australia, Megadisc have one of the most exhaustive lists of these libraries and supply just about every disk. Another large PD library, Prime Artifax, only carry the Fred Fish library. However, they have compiled their own theme disks which group PD programs of a similar nature onto one disk. These disks are regularly updated to reflect the latest and best programs in each category such as Wordprocessing, CAD, Entertainment, Graphics, Utilities and so on.

## Where to get PD

There are many places to get public domain software. Bulletin Board Systems - see the article on communications - are an excellent source. User Groups are normally pretty up to date too. But this doesn't help if you don't have a modem, or can't get down to your local user group meeting.

So, there are also commercially operated public domain libraries. These businesses are set up to make a very small profit on each disk of PD programs. What you pay for is the service, not the software. Disks range from around \$2-\$5. The bigger companies offer a guarantee the disk will work and will replace faulty disks. They also give support on using the programs and make ordering easy with free postage and free phone numbers. Essentially, you get what you pay for.

## How good is it really?

The quality varies. Sometimes the programs are totally functional, and may well replace far more expensive alternatives. NCOMM and TERM are good examples of communications software which is way cheaper and yet performs better than commercial alternatives. At the other end of the scale, in wordprocessing for example, there is really nothing in the public domain which compares with even the cheapest of commercial programs.

You'll find lots of neat animations, music, graphics and hacker demos that can only be found in the public domain. These are often entertaining and a great way to show off your Amiga to friends. So why not check it. Try somewhere local, or call one of the big libraries and ask for a free catalogue. □



# Fish Disk List

## Disks 551 - 740

### Public Domain Software

#### Disk 551

**ARTM** - Amiga Real Time Monitor displays & controls system activity such as tasks, windows, libraries, devices, resources, ports, residents, interrupts, vectors, memory, mounts, assigns, locks, fonts, hardware, etc. V1.3 - update to V1.0 on disk 327.

**CWeb** - Programming tool - to program top down, by splitting the program into small modules. V2.0.

**ToolManager** - Adds programs (either WB or CLI) to the tools menu of 2WB. Requires WB2.0. V1.5 - update to V1.4 on disk 527.

**WBGauge** - A utility to patch AmigaDOS 2.0 to bring back the gauge in the left border of disk windows, showing the ratio of available space on the disk. V1.2 - update to V1.0 on disk 417.

#### Disk 552

**GNUPlot** - Interactive function & data plotting program - supports many output devices. Includes extensive on-line help. New features include support for surfaces, more flexible data file handling, unified PostScript support, etc. V3.0 - update to V2.0 on disk 526.

**TaskPri** - CLI command to set task priorities from the CLI. AmigaDOS 1.3 & 2.0 compatible.

**TSFSuite** - Program group to allow use of a Teac SCSI Floppy on the Amiga. Includes programs to set the mode to 1.2 or 4 Meg [TSFMx], to format to 1.2 or 4 Meg [TSFFx], a utility that does disk changes for you [TSFADC], & a SCSI exerciser to explore the controllers on the SCSI bus.

#### Disk 553

**24BitTools** - Three conversion programs to manipulate 24-bit images. *IFF24To8* converts 24-bit IFF images to 8-bit IFF images, *Pro2BMP* converts 24-bit 3D-Professional format images into 24-bit "BMP" files that Microsoft Windows can understand, & *Pro2IFF* converts 24-bit 3D-Professional format images into the more useful 24-bit IFF format.

**AddMenu** - Add infinite number of menus to the Tools menu on WBV2.0. V1.54, update to V1.50 on disk 501.

**AutoCLI** - A PopCLI type replacement that works with WB2 & fully compatible with A3000 & accelerator boards. Can automatically open CLI/SHL windows to 1 pixel less than screen size on opening. Includes - spline patterning on blanking, more function keys, mouse activated screen shuffle, close gadgets on Shell windows & more. V1.99n - update to V1.99d on disk 501.

**FAFF** - Specification for the FAFF spreadsheet file format used by the Gold Disk products *Professional Calc*, *The Advantage*, *Office Calc* & *Office Graph*. Describes V2.0 of FAFF. This information should allow 3rd party developers to create & use files that are compatible with *ProCalc*.

**RoadRoute** - Determines from a user modifiable data base, the shortest & fastest routes between two cities. German ver. of the distribution on disk 504, with 2641 German cities (towns, hamlets, etc) & 5555 connecting roads. Requires 1Mb.

**SysInfo** - Reports interesting information about the configuration of your machine, including speed comparisons, versions of the OS software, etc. V2.40 - update to V2.22 on disk 502.

#### Disk 554

**Amastermind** - A mastermind type game written in AMOS & compiled so that it can be run from WB. Fully mouse & menu driven. Features choice of 6 to 10 colors with 4 to 8 holes. V1.1.

**IFSgen** - An Iterated Function System generator. Generates pictures of ferns, trees, galaxies, snowflakes & many others using IFS codes (a type of fractal). Full mouse control of the functions which define the picture. Just point the mouse at one of

the parts of the shape & drag it around the screen. Fully menu driven, with the ability to load & save IFF pictures & the codes that generate them. Lots of example files. Runs from WB. V2.1. Requires 1Mb RAM.

**Landmine** - Game of logic. Landmines are buried in the playing field & you need to work out where they are, avoid them, & clear the rest of the field to get maximum points & advance to the next level. Requires 1Mb RAM. V1.0.

**Landscape** - Fractal scenery generator written in AMOS, runs from WB. Features many user adjustable parameters such as height, sea, tree & snow levels, beaches, lighting angles, & palette. 2D (contour map) & 3D rendering. Some example sets of parameters provided. Ability to render in 5 different resolutions so that fast (10 seconds) previewing of a scene is possible. Requires 1 Meg. V1.1.

**LVD** - A first defense utility against file & link viruses. It patches the LoadSeg vector(s) & checks every executable that comes along. Recognizes 25 file or so link viruses. V1.61.

**SubAttack** - A "shoot the ships" game based on an old arcade game where you have to fire your torpedoes at the right time, so that they strike a ship as the ships move across the screen. Requires 1Mb or more of memory. V1.0.

#### Disk 555

**EasyColor** - A color palette tool that you can use in your own programs. Works with any screen depth & type. Includes a usable demo. V1.1.

**FED** - A binary file editor with lots of options. V1.1.

**FlashCopy** - A multitasking friendly disk copier that can make nibble copies as well as standard DOS copies in about 75 seconds. V0.9.

**HPMode** - A script file that sets fonts, attributes & some printer commands for the Hewlett Packard DeskJet 500 printer. It accesses some features of the DeskJet that are difficult to set from preferences or the printer. V1.0.

**RMBShift** - Lets you use the right mousebutton (RMB) as a SHIFT-key. Useful when selecting multiple icons on the WB. Only uses 288 bytes of memory. V2.0 - update to V1.0 on disk 547.

**TheA64Package** - A comprehensive emulator/utility package to assist Commodore 64 users in upgrading to the Amiga. Compares to or surpasses commercially available packages of the same nature. Many of the utilities require a hardware interface that allows the Amiga to access C64 peripherals such as disk drives & printers. Hardware interface available from QuesTronix. V2.0 - update to V1.0 on disk 379.

#### Disk 556

**ASMOneDemo** - Demo of the commercial assembly development package "ASM-One", with save disabled. Provides editor, macro-assembler, optimizer, monitor & debugger. Can be controlled via mouse or keyboard. Includes assembly include files & offsettables. Many documented examples provided. V1.02.

**Scheme2C** - A Scheme compiler which accepts the language defined in the essential portions of Revised Report on Algorithmic Language Scheme, with minor constraints & some additions. The compiler produces C source files which are then compiled using the system's C compiler (Lattice C 5.10 on the Amiga) to produce conventional object & executable files. Because of the size of the distribution, it has been split onto three disks as follows: source & documentation archives on 556, M68000 binary archive on 557, & M68020 binary archive on 558.

**VirusChecker** - Can check memory, disk bootblocks, & all disk files for signs of most known viruses. Can remember nonstandard bootblocks

that you indicate are OK & not bother you about them again. Includes an ARexx port. V5.30.

#### Disk 557

**AutoCentre** - A utility for AmigaDOS 2.0 that will automatically center any new screens that are opened. This is especially useful when you have an overscanned WB screen under 2.0 but find that a lot of applications still open on a 640 wide screen that is aligned with the left edge of the screen. V1.2.

**DPatch** - Allows you to change the default overscan sizes used in DeluxePaint 3.25 & 4.02. Useful for loading in old animations created with Dpaint 3.14 & animations created in other programs whose screen sizes do not match the default Dpaint sizes.

**Scheme2C** - See Disk 556

**Warp Speed** - Animated view out the window of a vehicle moving at Warp Speed. V1.0.

#### Disk 558

**BTNTape** - A Better Than Nothing SCSI tape device handler. Provides flat file access to a SCSI tape drive from application programs using simple DOS calls to Read() & Write(). It can also be used with the Amiga TAR utility for disk backups. Requires a "SCSI-direct" compatible SCSI bus adapter. Includes bugfixes. V2.1 - update to V2.0 on disk 471.

**DisDF** - Disables DF0-DF3 to stop empty drive clicking. Runs from CLI, startup script or WB. V1.1 - update to V1.0 on disk 531.

**Scheme2C** - See Disk 556.

#### Disk 559

**Addresser** - Name, address & phone number filer - supports mail merging, auto dialing, searching & label printing. V1.0.

**APIG** - ARexx external function library, similar to RexxArpLib. Provides the ARexx programmer with access to most of the resident Graphic, Intuition, & Layer library functions. This library allows one to create the underlying data structures that are used by the Graphic/Intuition library functions. These data structures are then used with other library functions to create custom INTUITION screens & windows. V1.1.

**Aquarium** - Searches through a special database containing information about the contents of the library, in order to find programs that match a specified list of conditions. Includes a database of disks 1-550 & two programs to add the contents of future disks to the database. *Aquarium* V1.15, *Olsson NewFish* V1.13, & *Oesch NewFish* V2.6.

**RexxRMF** - ARexx external function library which provides keyed file access using AVL trees. You can index data files for fast search/retrieval of data records. Record management functions allow variable length keys, variable length records, variable number of fields per record, multiple indices on a single file, duplicate or unique keys, passing of record data directly to/from ARexx variables, etc. V0.5.

#### Disk 560

**BootX** - Boot, file & link virus killer with a KickStart 2.0 look (even under KickStart 1.3). Has lots of options to detect & kill Amiga viruses. V4.02 - update to V3.80d on disk 542.

**Llamatron** - A fast, original rendering of the eighties "Robotron" by Williams. It features over 100 levels, sampled sound, single player mode, 2-player team & individual modes, droid-sidekick modes, 2-joystick console mode, dozens of different, weird enemies & an abstract sense of humor. V1.0 - update to disk 541.

**MuchMore** - Like "more", "less", "pg", etc. This one uses its own screen to show the text using a slow scroll. Includes built-in help, commands to search for text, & print the text. Works with PAL or NTSC, in normal or overscan modes. Supports 4 color text in bold, italic etc. V3.0 - update to V2.7 from disk 378.

**STScan** - For using a Siemens ST 400 SCSI flatbed scanner with the Amiga. Can be adapted to other scanners, serves as an example of SCSI-direct access to SCSI devices. V1.0.

#### Disk 561

**PPLib** - Shared library for programs that support *PowerPacker*. Loading crunched files from C or assembly is made fast, short & easy. V35.255 - update to V34.2 on disk 414.

**PPMore** - A More replacement - reads normal ASCII text files as well as files crunched with *PowerPacker*. V2 - update to V1.8 on disk 542.

**PPShow** - A show program for normal IFF ILBM files or ILBM files crunched with *PowerPacker*. Decrunching is done automatically as the file is read. V2 - update to V1.2a on disk 542.

**ReqTools** - Standard Amiga shared runtime

library which makes it a lot quicker & easier to build standard requesters into programs. Requesters have look & feel of AmigaDOS2. V1.0a.

**SuperDuper** - Disk copier/formatter. Can make up to four unverified copies from a RAM buffer in 36 seconds. V2.0 - update to V1.0 on disk 488.

**ToolsDaemon** - Run programs simply by selecting a menu item from the tools menu of WB2. Both CLI & WB programs are supported. V1.0

#### Disk 562

**CLIsizer** - Little hack to allow you to easily resize the WB screen from any CLI window. V1.0.

**Degrader** - Degrades your machine to try & get badly written programs to work. Locks out fast memory, turns off cache & burst modes, traps privilege errors, forces PAL or NTSC modes, etc. Survives reset. V1.

**Filer** - Filemanager featuring buffered directories, soft & hardlink support, configurable by ASCII file & much more. Demo version - some features disabled. Needs KickStart 2.

**Fkeys** - Adds window & screen switching functions to the function keys in conjunction with the left Amiga key. V1.1.

**Intulisp** - A shared library with support routines for using texts, borders, gadgets, menus, & more. V2.

**ShowGuru** - Recognizes 168 different guru numbers & translates them to human understandable form. Prints result. V2.1.b.

#### Disk 563

**bBasell** - Database for WB. Stores, sorts & searches for information. Limited to 9 fields in each record. Features include fast sorting, search in any field. V5 - update to V1 on disk 491.

**Kpri** - Another NEC-p6 intuition front-end to choose several print styles & add a title line on the top of the page. You can split your text files into their odd & even pages & print on both sides of the paper. Requires AmigaDOS-2. V2.0.

**M2Midi** - Modula-2 interface to Bill Barton's v2.0 "midi.library". V1.03.

**Menu2Asm** - A module for A+L AG's Modula-2 compiler *M2Amiga* V4.0 - automatically creates modules for pre-initialized menus for the use with this Modula-2 compiler. Requires A68k by Charlie Gibbs or any compatible assembler. V1.0.

**MidiKeyboard** - Play MIDI keyboards connected to the Amiga with a MIDI interface via mouse or computer keyboard. Control up to 16 notes independently with the computer keyboard. Requires Bill Barton's "midi.library". V2.0 or higher. V1.0.

**ReqLibrary** - Modula-2 interface to "req library" V2.5. V1.01.

#### Disk 564

**ALoad** - Similar to XWindow's XLoad to display the loadfactor on your Amiga. Requires KickStart-2. V1.1b.

**DisKey** - Sector oriented disk monitor with - disassembler, user-friendly ASCII & hex editing facility & extensive search options. For salvaging data from damaged disks etc. Supports req library, & external disassembler libraries. Can be iconified. V2.1.

**DoPro** - Patches the intuition OpenScreen routine to change the ViewMode of a new screen, eg. to open a NTSC instead of a PAL screen. V1.5.

**MSCalendar** - Calendar utility & a MCK-like MemoryClock in one program. V1.10.

#### Disk 565

**AddMenu** - Add infinite number of menus to the Tools menu on WB2.0. Uses the correct WB library calls & allows updating from CLI or from within the menu itself, meaning infinite number of functions. V1.56 - update to V1.54 on disk 553.

**CanDoDemos** - Demos of the capabilities of CanDo, an authoring package utilizing graphics, sounds, buttons, menus, etc., & a powerful, scripting language.

**PCompress** - Program for most compression requirements. Uses the latest LZH compression algorithms. Can handle single files, whole drawers, disks, or selected files or types of file within drawers & disks. V5.1.

**SysInfo** - Reports interesting information about the configuration of your machine. V2.51 - update to V2.40 on disk 553.

#### Disk 566

**AM** - Algorithmic music generator. Produces MIDI output via Bill Barton's midi.library. Requires OS 2.0. V1.1.

**ApfelKiste** - Mandelbrot generator. Has special assembly routines for fixpoint calculation.

**Bomber** - Amiga version of the Macintosh game called Bombs. Requires AmigaDOS-2.0. V1.2.

**FoCo** - Format controller. Graphical user inter-

face for disk formatting. Pops up on disk insertion or via hotkey. Requires AmigaDOS-2. V1.1.

#### Disk 567

**AmigaMail** - Collection of source code listings from the first eight issues of Amiga Mail Volume II, from Sept 1990 to Nov 1991.

**AutoCLI** - A DMouse type replacement that works with WB-2 & fully compatible with A3000 & accelerator boards. Always retains the default path & stack, & current directory. Can automatically open CLI/Shell windows to 1 pixel less than the current screen size on opening. New functions include spline patterning on blanking, toggle freeze mouse, more function keys, mouse activated screen shuffle, close gadgets on Shell windows, etc. V2.06 - update to V1.99n on disk 553.

**DiskPrint** - Prints 3.5/5.25" disk labels, primarily for FD library disks, with the ability to create, handle, load & save label library files so labels for most FD disks are available after a few mouse clicks. Features include different label sizes, intuition based directory read-in, label library functions & multiple print of any label or FD disk series. Works fine with printers connected to the parallel port & AmigaDOS 1.2/1.3/2.0. V3.4.3 - update to V3.1.2 on disk 546.

**MouseAideDEMO** - Demo of a Mouse utility with all the standard functions; mouse acceleration with threshold, window & screen manipulation by mouse & keyboard, mouse & screen blanking, SUN (auto-activation) mouse, user definable "hot key" command, etc. Also has functions other mouse programs do not, such as multi-click-select with only the mouse, left & right button swapping, mouse port switching, etc. V2.56a.

**SetRAMsey** - Tests the current settings of the RAMSEY Ram controller chip on an Amiga 3000 under Kickstart 1.3 or 2.0, & changes them if you wish. Useful for hardware debugging to control static column mode, burst mode, or change the refresh rate. V1.50 - update to V1.02 on disk 423.

#### Disk 568

**CalorieBase** - Provides a calorie & fat count for recipes which do not provide this information. It can also quickly give the calories for a specific food or total the calories you consume throughout the day. V1.1.

**Schoonschip** - Algebraic manipulation program which has been used in particle physics & developed since 1963. Capable of handling large problems. Includes large & small workspace versions, tutorial examples, sample programs, & a manual. V5-Oct-91.

**VMK** - Quick & intelligent virus detector/killer for startup-sequence. V1.10 - update to V1.0 on disk 510.

#### Disk 569

**PPLoadSeg** - Patches the loadseg routine to automatically recognize files crunched with PowerPacker. After running PPLoadSeg crunched libraries & devices are still recognized by AmigaDOS. V1.1 - update to V1.0 on disk 542.

**SonicArranger** - Demo of a music program that supports sampled & synthesized instruments as well as sound & note transposes for patterns. The optimizer can be used to reorganize the internal data structure of a song. Allows 254 instruments created from 64 samplestots, 64 synthetic waves, ADSRs, LFO's & sound effects. Can also load & convert Noisetracker-2 compatible song modules. V1.36b.

**Spliner** - Spline screen blander with programmable pattern change timeout.

**TrackMaster** - Tool to help game developers create selfbooting, trackdisk loading gamedisks. Uses a script file to process datafiles (join, compress, relocate, special actions). The processed data is written to disk via trackdisk device. A bootblock for the first datafile, which should be a pc-relative loader, & a file look-up table, is created & written to disk. With manual. V1.7.

#### Disk 570

**DirWork** - Fast, small, DirUtility. Configurable options & buttons, etc. Comes with external configuration editor. V1.43 - update to V1.31 on disk 511.

**Fass** - Lets you reassign the FONTS: directory without having to use the CLI. V1.02.

**GadToolsBox** - Draw/edit GadTools gadgets & menus & then generates the corresponding C or assembly code. V1.0, update to disk 547, where it was known as PowerSource.

**MenuLock** - Lock the menu strip of a window - making it easier to browse the menu without accidentally selecting anything. V1.01.

**BeardView** - Text display - features include searches, file requestors, etc. V1.5 - update to V1.0 on disk 504.

#### Disk 571

**AutoCLI** - DMouse type replacement - (See disk 567) V2.12 - update to V2.06 on disk 567.

**CPUSet** - Assembler utility to manipulate the various cache modes of the 68040, 68030 & 68020 processors. The copy-back mode of the 68040 is also supported. From CLI & WB. Compatible with Kickstart 1.3 or 2.04.

**Gwin** - V2 of GWIN. GWIN or Graphics Window is an integrated collection of graphics routines callable from C. These routines make it easy to create sophisticated graphics programs in the C environment. GWIN is a two-dimensional floating point graphics system with conversion between world & screen coordinates. GWIN includes built-in clipping that may be turned off for speed. Use of color & XOR operations are greatly simplified. Examples included. Examples include line/bar graph program, SPICE 2G.6 graphics post-processor, & others. Doc's included. Update to V1.1 on disk 433.

**MemClear** - Walks through the free memory lists, filling free memory with a user-specified value. Display diagnostic information on CHIP & FAST RAM fragmentation. V1.05 - update to disk 58.

**SysInfo** - Reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, etc. V2.53 - update to V2.51 on disk 565.

#### Disk 572

**CrossFade** - Interesting screen hack that smoothly crossfades between screens.

**Multiplot** - An intuitive data plotting program featuring flexible input options, arbitrary text addition, automatic scaling, zoom & slide with clipping at boundaries, a range of output file formats & publication quality printed output. WB printers supported via transparent use of PLT: device. Postscript & HP Laserjet printers directly supported. Ver. XLNe, update to disk 467.

**ResetHandler** - Installs a handler in the keyboard device reset handler list that is called when you press CTRL-Amiga-Amiga. It opens a window & counts down from 9 to 0 in ten seconds & then resets the machine. V1.0.

**WBStart** - Emulates WB startup procedure, by loading a program, creating a process for it, & then sending it a WB startup message. Includes a handler process which does the starting of the processes for you & then waits for the startup reply messages. V1.0.

#### Disk 573

**MathPlot** - Another function plotter. With lin/log plot & a complete KS 2.0 interface. Needs Kickstart/WB 2.0 (V36 or higher). Needs mtool.library (supplied).

**MToolLibrary** - A shared library for the Amiga. Some math functions & a bit of intuition support. V2.20 - update to tool.library V2.06 on disk 376.

**MultiPlayer** - Music player which plays Soundtracker / Noisetracker, MED, & 15 other types. Contains simple control panel, & allows creating programs to play a list of modules in sequence or in random order. Supports WB 2.0's "AppWindow" feature - just drop modules into MultiPlayer window. V1.11a.

**Plasma** - Generates very colorful Plasma Cloud Fractals. Plasma clouds are a special form of fractal which show very smooth color gradations. An update to disk 285.

**Plotter** - Plots math functions. Needs mtool.library (supplied). V3.98 - update to V3.71 on disk 376.

#### Disk 574

**Chemesthetics** - Draws molecules using the calotte model. This means that atoms are drawn as bowls. Has an intuition interface, saves pictures as IFF, example files.

**DiskSpeed** - Disk speed tester - specifically designed to give the most accurate results of the true disk performance of the disk under test. Automatically updates & maintains an ASCII database of disk results for tested disks. V4.1 - update to V3.1 on disk 329.

**MKSLens** - Magnifies a small area surrounding the pointer & displays it in separate window. Magnification factor from 1 to 16. No HAM mode.

**NewZAP** - A third-generation multi-purpose file sector editing utility, from the author of FileZAP. Displays & edits full 512-byte sectors via a 106 character wide internal font. Includes a search feature to find specific strings or hex digits, forwards or backwards. User-customizable, with new printing feature added. V3.3 - update to V3.18 on disk 164.

#### Disk 575

**AmigaToNTSC** - AmigaToNTSC patches graphics.library so it will think you have an NTSC

Amiga. AmigaToPAL will patch it to think you have a PAL Amiga. Custom screens will open in the mode selected. V1.0.

**DataPlot** - Plots data & algebraic functions in 2D. The user simply clicks on an option screen to select various options, such as type of marker, log or linear axis, auto vs manual scaling, gridlines. The macro language makes similar, repetitive plots easy to do. Data points can be transformed by an algebraic function prior to plotting. A macro can be automatically executed upon startup-up. Plots in any resolution from 320x200 to 640x400. Plots can be saved as macro commands & IFF ILLBM files. Prints directly to Epson compatible printers, or to any Preferences supported graphics printer via the PLT: device. V2.16, which now includes a Legend command, & is now freeware. Fixes several bugs. Update to V2.1 on disk 532.

**PPLib** - Shared library - for writing programs that support PowerPacker. Loading crunched files from C or assembly is made fast, short & easy. V35.256 - update to V35.255 on disk 561.

**ReqTools** - Runtime library - for building standard requestors into programs. Have look & feel of AmigaDOS-2. V1.0b.

#### Disk 576

**Analyzer** - Aslows data stored in one or more files to be examined as representations of electrical signals, either graphically or numerically, in the same manner as with a logic analyzer. Screenrums of the display may be produced. Compatible with NTSC & PAL machines. Tested with Kickstart 1.2 & 1.3. V1.0.

**Budget** - Helps with managing personal finances. New features include search, selection, replace, & printer output. V1.34 - update to V1.3.3 on disk 546.

**Termil** - Comms program with nice features, including an ArrexPort, external process communications, XPR support, programmable function keys, postscript downloading, phone book, programmable panel buttons, public screen support, etc. Requires WB2.0. V1.1.

#### Disk 577

**LhA** - Fast archiver that is compatible with MS-DOS LhArc V1.13 & LHA V2.13, as well as the Amiga LhArc. Very memory efficient, has carefully optimized compression & decompression routines, multitasking reentrant & pure, handles multiple volume archives, & more. Also includes LhASFX, which creates SFX (self-extracting) archives from ordinary LhA archives. V1.0.

**OwnDevUnit** - OwnDevUnit.library programmer's pack. Provides an extended locking mechanism for a device/unit pair that makes using programs like getty much easier. Getty is a program that sits on the serial port waiting for calls to come in. By using OwnDevUnit.library, a program can request that Getty temporarily release the serial port.

**PetersQuest** - This cute game has you, the intrepid Peter, following a trail of hearts through a world of 20 levels, riddled with porcupines & other hazards, to rescue Daphne, the love of your life. Digitized sound & colorful graphics. New features include super speed, super jump, rocket pack. V1.2 - update to V1.0 on disk 224.

**TurboQuantum** - SCSI bit twiddling program that sets or clears the Disable Disconnection bit in a Quantum hard drive's Control Parameters Mode Page. Disabling disconnection during data transfers can result in a large performance boost on some systems.

#### Disk 578

**Spice3** - Circuit analysis program. Includes dynamically allocated memory, interactive post-processing & graphical plots. Requires a minimum of 1MB RAM. V3e2.

#### Disk 579

**BinToHunk** - Converts a raw data file (text, bitmapped image, etc.) into an Amiga Hunk format object file that can be linked using Blink. V1.0.

**Cass** - Cassette Cover Printer. Makes cassette labels. Produces either the usual ASCII character labels or a source text that can be fed to LaTeX. V1.1.

**OctaMED** - Music editor. 8-channel version of MED. Designed for making music for programs (demos, games, etc), but works well as a stand alone music program. V1.00b - released as a demo for the new V2.0, which is a commercial product.

#### Disk 580

**WorldDataBank** - Using a database of coordinates compiled by the CIA & made available under the Freedom of Information Act, this program plots world maps in cylindrical or spherical projections,

with various degrees of magnification. Includes the largest available data file, for detailed mapping of even small sections of the globe. V2.2 - update to V2.0 on disk 262.

#### Disk 581

**FileLocator** - Searches up to 28 mounted devices for specific files using wildcard matches. V1.0.

**Neuro** - Neural network simulator which is able to learn patterns (e.g. letters) & recognize them. Handles Hopfield & Backpropagation networks. Examples included. V1.0.

**Prism** - ANSI editor that allows animations, & complete color control. Used on many BBS's to create animated screens. Includes configuration editor, font control, & variable playback speed. V1.4.

**StopWatch** - Stop watch application with the precision of one milli-second (variable), which scans the joystick button. Full multitasking capability & intuition interfacing, additional display screen for genlock output, Arrex port for parameter/result handling & screen manipulations. V3S - update to V2 on disk 468.

**ANSI** - Removes all ANSI codes from a text file, so that only the bare text remains. It is useful for editing terminal program capture buffers. Two versions are provided - CLI & WB. V1.0.

#### Disk 582

**Diplomacy** - Strategy game loosely based on World War I. Designed for several players but can be played by as few as 2. The computer manages the game, resolving orders & graphically displaying the current status. Provides map design. V2.0.

**Questionator** - C-Save, update, & present multiple choice questionnaires. V1.07.

**VideoDat** - Databank to store information about videos. V1.2.

#### Disk 583

**ARoff** - Text formatter, much inspired by the *nroff* utility on UNIX systems. V1.12.

**ATbl** - Fortable formatting. Can produce printer output, with IBM graphics characters, or a regular IFF ILLBM file which can be read by desktop-publishing or word-processor programs. V1.

**CPUSet** - (See disk 571) V1.5 - update to V1.1 on disk 571.

**FullView** - Text viewer - uses gadgets at the bottom of the screen (thus can display text 80 columns wide), opens up to the full size of the WB screen, displays ANSI color sequences & can load files compressed by PowerPacker, shows IFF pictures. V3.04 - update to V2.02 on disk 412.

**StopWatch** - Times events - with accuracy of about 250 milliseconds. V1.

**SuperLock** - Security program that can lock any or all of the devices present in the system, making access to them impossible. It can also optionally lock the keyboard & the mouse. Requires arp.library. V1.01.

**SuperSpell** - Global spelling checker - checks spelling no matter what program you are typing in. Includes an editable 9000 word dictionary. V1.1.

**SysInfo** - (See description on disk 571). V2.56, update to disk 571.

**TpEdit** - A gadtools template editor that is able to generate standalone C source code & does generate its own surface. Requires AmigaDOS 2.0. V2.00 beta - update to V1.00 on disk 480.

**WorldTime** - Clock that has two states. In the first state, it has a small window which shows the current time & also the current time in another city in the world. In the second state, a large window shows the time in 84 cities throughout the world. List of cities is configurable. V1.31.

#### Disk 584

**DataPlot** - Function plotter. Does not really plot the data, but creates a .dat file containing the function which you typed in & the corresponding values that have been calculated. The ".dat" file can then be read in by "MultiPlot" (from AmigaLibDisk 467), so that you can manipulate the data with much more powerful functions than most normal function plotter programs offer. V1.

**Electron** - Cellular automata. V2.01 - update to V1.20 from WizardWorks1.

**EnvPrint** - For printing envelopes for letters. Type in the addresses or load them from disk, & it will organize the printing job for you. V1.2.

**ExeC** - For executing CLI commands from WB. V1.10.

**IFFWizard** - Shows all chunks of an IFF file together with a short description & the chunk length. Knows over 170 Chunk & Type IDs & descends recursively into FORM-, LIST-, CAT-, & PROP-chunks. Also contains a companion file with a list of all chunk- & type-IDs known by IFFWizard. V1.10.

**RevHead** - Generates info files for your existing



source codes / executables. Info data is stored in a separate file. Features Kick/WB2.0 environment. V1.05.

**SpL** - Generates spheric lissajous figures. (Oh yeah!) V1.00.

**TextStat** - An extended word count program. Counts the frequency of ASCII characters, letters, etc. V1.10.

**TurboLife** - Cellular automation Life. V2.01.

**WizardClock** - WB2.0 design, intuition interface, 3 languages, analog/digital clock, calendar, alarm, reads the date & time with the SPEAK device. V1.20.

**WizardFiler** - Update of FileWindow from disk 337. V1.01.

## Disk 585

**RayDance** - Demo of RayDance raytracer. Fully functional except that it requires clicking on a continuation prompt after every 15 minutes of rendering time & the total number of polygons & spheres in a scene is limited to about 1400. Includes both software & hardware floating point versions. Requires 1Mb Ram. V1.0.

## Disk 586

**AzMake** - Work environment for Aztec C. Compile, assemble, link, print, etc your programs by clicking a gadget. V1.1.

**BlackHole** - Utility that acts like a super-trashcan & adds an icon to the WB window. As such, Black Hole requires AmigaDOS-2. Drag file or drawer icons onto the Black Hole - you will then be asked if you want to delete them. V1.0.

**Contour4D** - Creates colored, altitude mapped objects for Sculpt 4D. Two IFF brushes are used; one to supply the color for the object & a second which, by its color intensity, gives an altitude for the object at that point. Objects are optimised so that large areas of one color & height become a single larger set of faces. Objects are output in Sculpt .scene format. Works with ordinary, HAM or Extra-Halfbyte brushes. Full intuition interface. V1.5.

**LSLabel** - Label printing utility. User can select settings. Includes variable linefeeds between 21 independent lines & freely configurable printer codes. V1.1.2 - update to disk 478.

**Opus8** - Converts Macintosh 8-bit sounds to Amiga 8SVX format.

**TheGallows** - Hangman game - over 3000 words. Fill in the blanks & guess the word before the prisoner is hung. New words can be added to the list of words. V1.0.

**Tree4D** - Creates 3D branching trees for Sculpt 4D complete with leaves. Many aspects of the shape & design are modifiable, including color & detail level. Objects are output in Sculpt .scene format. V1.5.

## Disk 587

**ConLib** - Run time re-entrant library - developed for application programmers. Contains functions to format & display text, accept keys/messages, strings, or numbers, & to handle cursor & screen control, etc. V2.

**GMC** - Console handler - provides extended command line editing, function key assignment in four levels, extended command line history, online help for functions in the handler, & an iconify function. Also includes an output buffer (dump to printer & window), filename completer, script function, undo function, prompt beeper, pathname in window title, etc. V9.11 - update to disk 434.

**TMKBP** - The Multi-Kickstart Board Project lets you build a Kickstart ROM switcher compatible with the Amiga 500 & Amiga 2000. It will hold up to 3 versions of Kickstart, & can be switched between via an external switch. If software does not work under Kickstart 2.0, simply flip the switch & reboot under 1.3. It includes full step-by-step documentation, as well as schematics, & diagrams. V3.1.

## Disk 588

**FifoLib** - FIFO: is like PIPE: but is based on fifo library rather than its own implementation. Fifo library is a general fifo library implementation that supports named fifos, writing to a fifo from a hardware exception, multiple readers on a fifo with each getting the same data stream, efficient reading, & automatic or manual flow control. V3.4.

**FracBlank** - Screen blanker for AmigaDOS-2.x. Will blank the screen & start to draw real plane fractals. V1.8, update to disk 535.

**MandelSquare** - Generates Mandelbrot - runs only under AmigaDOS 2.x, requires an '020 / '030 / '040 CPU & a numerical coprocessor. Also included is a movie mode which allows generation of long camera zooms to spots in the Mandelbrot set. The resulting animations can be saved in ANIM-opt-5 format, allowing replay using MandelSquare or standard animation software. V1.3.

## Disk 589

**Term** - Comms program written for AmigaDOS-2.x (Kickstart 37.175 & WB 37.67 or higher required). Features include total configurability, full ARexx control, Xpr-transfer support, filetype-identification after download, cut & paste / point & click on screen, auto upload & download, scrollable review buffer of unlimited size, solid & fully-featured VT100/VT220/ANSI emulation, hotkey support, powerful phonebook & dialing functions, save & print screens as IFF-ILBM or ASCII file, full overscan & screen resolution support - ECS screen modes included - asynchronous operation, etc. Comes with seven Xpr-transfer libraries (ASCII, Jmodem, Kermit, quick-B, Xmodem, Ymodem, Zmodem). V1.9c, update to disk 534.

## Disk 590

**Crystals** - Simulation of 3D crystal lattices which permit you to observe stereoscopic views of any of the fourteen Bravais lattices with a variety of orientations, while rotating & positioning them in real time. The frame rate is between 10 & 30 frames per second, depending upon the options selected & the Amiga being used. V2.15.

**EquiLog** - Master-Mind type game. V1.36.

**MICE** - My Image Code Editor. MICE generates source code from standard IFF pictures. Can generate either assembly or C source. V1.2.

**Seeker** - Find file utility for AmigaDOS-2. Intuition interface supports AmigaDOS & Unix like wildcards. V1.2.

**SuperDuper** - (see disk 561). V2.01 - update to V2.0 on disk 561.

## Disk 591

**Flyspeck** - Tiny font, which is more of a gimmick than a useful font.

**MonopolySrc** - Source code to the popular Monopoly game distributed in binary form on disk 251.

**Vim** - Vi IMitation. A clone of the UNIX text editor vi. Very useful for editing programs & other plain ASCII text. Based on Stevie (disk 256) with many enhancements such as multilevel undo, command line history, improved command line editing, full vi compatibility (except Q & zn commands), command type ahead display, command to display yank buffers, unlimited line length, ability to edit binary files, file name stack, support for Manx QuickFix, shows current file name in window title, etc. V1.14.

## Disk 592

**CirclesUp** - Two player game where circles fly into the playing area from both sides of the screen. When each player presses his corresponding ALT key they fly to the top of the screen & stop moving when they hit another circle or the border. The object of the game is to connect a specified number of circles of the same color. V1.0.

**EZAsm** - Combines parts of 'C' with 68000 assembler. Produces highly optimized code. Supports all 2.0 functions & more. Comes bundled with A68k & Blink, for a complete programming environment. V1.6 - update to V1.5 on disk 484.

**LAZI** - Graphic interface for archive utilities: Lharc, Arc, & Zoo. Will add, delete, extract, & update single or multiple files, list & test archives, allow you to read extracted es/docs or any other ascii file, save a configuration file that holds the locations of your work directories, archive utilities, & its position when iconified. 1Mb Ram recommended. V1.0.

**NumbersUp** - Game where numbers fly into the playing area from both sides of the screen. When you click the mouse button, they fly to the top of the screen & stick there. The score is determined by what numbers the current number lands near, & the game ends when the same numbers end up adjacent to each other. V1.2.

**PublicService** - Screen clock intended for those whose day revolves around a series of breaks; this one counts down the minutes to each break, & complains if you're at the Amiga outside working hours. All break times are contained in a small text file.

**QuickTrans** - Replacement for mathtrans.library, containing faster versions of all 17 functions, with almost the same accuracy. V1.0.

**Star** - 3 'C' functions, that you can easily incorporate into your programs to draw stars.

## Disk 593

**AnalytRim** - An integration of the AnalytCalc spreadsheet (disk 495) & the RIM-5 relational database management system (disk 143). Integrates a spreadsheet with hundreds of functions & 18000 by 18000 cell address space, with a complete disk based DBMS, & functions permitting one to move relations or selections of relations in either direction between spreadsheet & database. In this

way, large relations can be stored on disk, yet accessed as needed in the spreadsheet, from whence they can be computed with or plotted. The command language of RIM is fairly close to SQL & documents for it are included. Also supports GnuPlot to provide flexible plotting. 2Mb of Ram is recommended, of which 750K must be contiguous. Disk 593 contains: executable & needed 'keypad' command files. Disk 594 contains source code & documentation.

**Elements** - Display of Periodic Table of Elements. Includes general row & column information, plus a test mode where the program asks specific questions about the selected element or row/column. V2.3b - update to V2.3 on disk 384.

**LhA** - (see disk 577). V1.11 - update to V1.0 on disk 577.

**PicPak** - Package of general purpose picture loading & manipulation functions, including IFF ILBM loading, ViewPort color control (including fades & color cycling), & frames. Will also load & display SHAM images. V1.3c.

**PictSaver** - Utility that allows you cut rectangular portions of any screen & store them on disk as IFF-ILBM files. Also allows easy saving of windows & entire screens to disk. V2.4 - update to V2.0 on disk 543.

**WindowTiler** - WB2.0 commodity similar to help that cascades, tiles, etc WB windows. Contains 7 ways to arrange the windows. Does not affect non-sizeable windows (so dock windows, etc don't get shifted). V1.1.

## Disk 594

**AnalytRimSrc** - See Disk 593.

**Cube4** - 3-dimensional version of zeros & crosses on a 4x4x4 board which can be inspected from all sides. It is possible to change the skill of the computer game, take back moves, change sides, etc. V1.2.1.

## Disk 595

**ClibSave** - A small hack for saving the actual contents of the clipboard to a file. Only from CLI. V0.1.

**HOW** - Game where the aim is to get a ball from the start square to the exit square, while trying to turn all squares to the same color. As the ball moves across a square, the color of the square changes in a cyclic order of four colors. Also includes a level editor program.

**IconSwap** - Small utility, which allows you to quickly & easily swap the colors of your icons between the older 1.3 & the new 2.0-style. V0.14.

**P-Compress** - Uses the latest LZH compression algorithms. Can handle single files, whole drawers, disks, or selected files or types of file within drawers & disks. In PACK mode it can consolidate files into less space than whole-disk compression tools or archivers. V2.1 - update to V1.2 on disk 565.

**P-Reader** - Reader that displays texts, pictures, animations & sounds, which may be uncompressed or compressed with P-Compress. Texts can include embedded static or animated illustrations & sounds. V5.2 - update to V5.1 on disk 543.

**P-Writer** - Text editor with special facilities for inserting text color & style changes & for preparing illustrated texts for P-Reader. V3.2.

## Disk 596

**RayShade** - Ray trace program (from UNIX). Features include: nine types of primitives (box, cone cylinder, height field, plane, polygon, sphere, superquadric, flat triangle & phong-shaded triangle); composite objects; point, directional, & extended (area) light sources; solid procedural texturing & bump mapping of primitives; & more. V3 patchlevel 5.

**ToolTypeWatch** - Helps you if you are searching for ToolType - keywords of a certain application. It patches the FindToolType() & the MatchToolValue() functions of the icon.library & records all calls to these functions along with the given arguments. This allows you to discover all keywords supported by an application as ToolTypes. V0.7.

## Disk 597

**GoLD** - Game of Life - Duo. A Game of Life extension. Uses 2 strains of cells, allows free redefinition of the rules, & contains the original game as a subset. V1.

**IconTools** - 4 programs to manage some aspects of icons using the Intuition interface & allowing one operate on many icons at once by shift-clicking: FloatIcon 1.05 sets an icon so that the WB can freely place an icon in a drawer window. ReplaceTool 2.04 sets a new default tool for project icons using the WB icons or a file requester. ReplaceImage 1.01 changes the image of icons to that of another. Swap Colors 1.01 swaps colors 1

& 2 in icon images. The last two programs will be useful for converting to the 'new look' of WB 2.0. (Not related to IconTools on disk 284).

**NewsList** - Powerful 'list' & 's' utility. It features fast algorithms, custom print & date formatting, 3 different types of recursion, a hunt mode, character filters, a pager, ansi, ENV: support, & tons of sorts & options. New features include complete WB2.0 support & compatibility, including full link handling, etc. V6.0 - update to V5.0a on disk 513.

**ScudBuster** - Scuds vs. Patriots missile game. This game is a combination of the old Missile Command, Battleship, & Stratego games rolled into one. Set up your strategy & launch missiles at your enemy, while he launches missiles at you. V0.8.

**ShadowMaster** - Modular screen saver system for AmigaDOS-2. Allows you to choose a saver module to be used at blank time, & to build utility modules that may (or may not) choose the actual saver. V3.7.

**ThinFonts** - 7 fixed width fonts in two designs to get more characters on your screen. Made for hires interfaced screens & A2024 modes.

## Disk 598

**ANSI** - CLI utility to convert 'C' source-code between ANSI & Kernighan & Ritchie function definition formats. Also allows generation of prototypes. V1.0.

**DX100** - Editor/Librarian for Yamaha DX100, DX21, & DX27 synthesizers. Provides voice editing & librarian features similar to the FB-01 Editor/Librarian. V1.25.

**FB-01** - Edit all parameters for FB-01 Voices & Configurations. Has graphical display of voice envelopes to improve the editing process. The librarian provides the means to organize & store a bank of voices or configurations on disk. Send customized banks to a Yamaha FB-01 or receive banks from this instrument. Print hardcopy of voice & configuration banks. V1.25.

**Parse** - Keyword command line parsing routine. Supports mixed case & unambiguous abbreviations in the command line. The parse routine can be used to add keyword control to any program in an easy manner. V1.2.

**TX81Z** - Editor/Librarian for the Yamaha TX81Z & DX11 synthesizers. Provides voice & librarian features similar to the V1.01 Editor/Librarian. Includes a Performance Editor & a Librarian. V1.23.

## Disk 599

**DBuff** - Source code with a small demo to implement double buffering by adding a second ViewPort to an Intuition screen. V1.0.

**InputView** - Tool for AmigaDOS 1.3 to record the input stream at a given time & then insert the recorded events again later, instead of the user input. V0.24.

**MailMerge** - Performs simple mail merge using the LaTeX letter style. Simply requires a letter in .tex format & a file of addresses. Each of these is inserted, in turn, into the .tex file which is run through LaTeX & then through the printer driver. V1.0.

**MOG** - Demo of a commercial molecular graphics program. Stick representations of molecules may be rotated, translated & scaled on screen & changes may be made to structures. Space filling pictures may also be generated using quick preview, shading, or ray-tracing. The demonstration version allows only one of two structures to be displayed & does not allow space filling, though some sample space-filled structures are included. V1.03D.

**PrLabel** - Utility to print laser printer labels. Support 3x8, 2x8 & 2x7 A4 label sheets. The program may easily be modified for other formats. Also serves as a demonstration of using STSLib for gadgets & menus. V1.1.

**RxlShell** - Set of routines to form an additional layer between the programmer & ARexx. Rxl\_shell sits on top of rxl on disk 299 & contains a few changes & bug fixes to the rxl routines. Using these routines, adding ARexx support to a program becomes completely trivial. V1.0.

**STSLib** - Blink compatible library required to recompile PrLabel. This library supplies gadtool-like 3D look gadgets (including check boxes, radio buttons & cycle gadgets) & menus whose layout will be adjusted for different default screen text fonts under AmigaDOS-2.0. V1.0.

## Disk 600

**Env** - Tool to edit your environments. You can change, add, copy, rename & delete them with an intuition GUI, instead of using Dos SetEnv / GetEnv. Features include keyboard shortcuts, font-sensitive windows, & shell command line support. V2.08.

**Memcheck** - Antivirus package for detection & analysis of new & old viruses. Includes a powerful



bootblock detector, a CLI detector & a Vectors program. The programs check for any virus in RAM & are able to kill all viruses in RAM. All libraries, devices, interrupts, reset vectors, etc. are completely checked by the programs. V5.0.

**Multi-Player** - Music player that loads & plays a large variety of the "tracker" type sound modules. With an intuition interface, allows you to load formats like *Intuitracker*, *NoisePlayer*, *SoundTracker*, *FutureComposer* & 7 others including power-packed modules! Includes samples. V1.5 - update to V1.2 on disk 509.

**NCode** - A fast MC68000/10/20/30 conditional macro assembler for the Amiga. Supports both the old & the new Motorola syntax for operands & allows you to put standard parameters in an argument file. NCode can be used for any of the four CPUs & will check whether your code matches the specified target CPU. V1.2.

**Paragon** - 2 player game where the object is to build a given crown (a pattern of 5 stones) on the playboard.

**Rothello** - Reversi/Othello like game that features the option to shift complete rows or columns of the playfield. Play a human or computer opponent. V1.0.

#### Disk 601

**APIpe** - An "Amiga pipe" device. If opened for read, it will run the file name as an Amiga CLI command, with the output going to the opening process. If opened for output, it will run the file name as an Amiga CLI command, with output to the opened file sent to the command as input.

**Intuisup** - A shared library with support routines for using texts, menus, borders, gadgets, requesters, & more, under AmigaDOS 1.3. Includes a template editor & source to library & test programs. V3.0 - update to V2.0 on disk 562.

**PP** - Patches AmigaDOS & makes decrunching of powerpacked files completely transparent to any program attempting to read such files. This means that any program may work directly on powerpacked datafiles, without any need to decrunch these first with *PowerPacker*. V1.4 - update to V1.3 on disk 542.

#### Disk 602

**JM** - Job Manager is a utility which extends the AmigaDOS multi-tasking environment by providing features such as: allocation of CPU cycles in any ratio to multiple CPU bound processes, default task priorities based on task name, task logging, system uptime reports, task CPU use & CPU % reports, task invocation times, & more. JM has very little impact on the system itself. Requires AmigaDOS 2.0.4 or later. Includes 68000/20 & 68030/40 V's. V1.0.

**MathsAdv** - A simple game where you, the young adventurer, must try to escape the king's Maths Adventure. To do this you must pass through a series of rooms. In each room you are given a math problem to solve, after which you can proceed to the next room if you answer correctly. The problems become more involved & more difficult in each room.

**MBPress** - A command that will detect which mouse buttons (including middle) are currently being pressed. The result can then be used to decide a course of action in a script file. Handy for your startup-sequence. Requires 2.04.

**PlotLib** - Another function plotter library with different display options in 2D, 3D or Niveau. Easy to use functions allow you to write your own plot program. Output functions for screen & HPGL plotter. Demo program included. Works on Amiga & MSDOS.

#### Disk 603

**DungeonMap** - A little tool that creates maps of dungeons (& eventually towns) which can be used by a *Dungeon Master* (DM's) for use in *Dungeons & Dragons* (D&D) game. These maps can be saved, edited, & printed. V1.0.

**DynaCADD** - Part 1 of a four part demo distribution of *DynaCADD* from Ditek International. *DynaCADD* is a professional 2D & 3D CAD package. This demo is fully functional except for disabled save & export functions. *DynaCADD* requires at minimum an Amiga with 1Mb of RAM & a hard drive, or two floppy drives. A de-interlacer of some kind is highly recommended. This disk contains all the files necessary to recreate the *DynaCADD* demo disk number 1. The files for demo disk number 2 can be found on library disk number 604 & the files for demo disks 3 & 4 can be found on library disk number 605. V2.04 - update to V1.84 on disks 434 & 435.

**ICNtroll** - An easy to use CLI command that gives you control over Work-bench icons. Its main purpose is to update the look of your icons for AmigaDOS 2.0, which can be done by swapping

the colors in an icon or giving new images to them. Moreover, it can be used to clear an icon's absolute position in a drawer or on WB. So it is also a helpful tool if you are not yet using AmigaDOS 2.0. V1.0.

**Notify** - A suite of Rexx programs that can be used to issue messages or run commands automatically on certain days &/or at certain times of day. Facilities are provided for the adding, editing & deleting of messages, & for displaying the times & texts of pending messages. A chime program is included to enable the time to be announced at regular intervals. V1.01.

#### Disk 604

**ArpRequest** - A demonstration of how to use the ARP file requester from AmigaBasic.

**DynaCADD** - (See Disk 603).

**MIDistuff** - A package of 8 tools that use midi.library so that they can use MIDI at the same time & can easily be combined in a modular way. Release 2 prerelease version.

**RingWar** - A classic arcade game of reflexes. The graphics are based on the vector style of the old arcade games such as *Asteroids* & *Tempest*. The goal of the game is to penetrate through the three rotating rings & hit the five pointed star in the ringship at the center of the rings, while avoiding randomly appearing mines, & the ringship firing back at you.

#### Disk 605

**DynaCADD** - (See Disk 603).

**HDClick** - A program selector/Harddisk-menu. Programs can be started easily by clicking on gadgets which can be defined by the user. Includes sub-menus, functions to edit the gadgets, preferences to change colors, a "Small" window, Hotkey-icity & more. Includes PAL & NTSC V's. Comes with *Config\_Tool* 1.62 by Manfred Gillett, a tool to edit HDClick-configfiles easily, & with other useful functions. V2.0 - update to V1.21 on disk 439.

#### Disk 606

**AlgoRhythms** - An algorithmic composition program that improvises music over a MIDI interface connected to the serial port. A MIDI interface & synthesizer are needed. The music is simple but can be pretty. Now on its own 8 color screen, with 20 voices & more scales, *AlgoRhythms* saves its own output to standard MIDI files, & can play 330 notes/sec on a 68000 at 7MHz. Does not use Amiga audio. V2.0 - update to V1.0 on disk 356.

**AutoGref** - Collects & graphically displays information on auto mileage. Features miles per gallon, cost per mile, miles driven, highs, lows, averages, etc. Includes a couple of sample data files. V2.0 - update to V1.0 on disk 166.

**FileMinder** - Utility for maintaining files & directories on a hard disk. Allows you to graphically see your directory structure, to move quickly to any directory, & to perform operations on the files & other directories there. V1.0.

**PrFont** - Prints a sample of each font from the fonts: directory. Draws one line of each font on a custom hires screen, which can be printed. V1.4 - update to V1.3 on disk 305.

**SpellCheck** - Aids you in learning foreign words. You enter the words & their translations, & then the computer quizzes you later. V1.2.

#### Disk 607

**AnimFader** - A small utility to fade screens in & out. Useful for softly fading things like animations recorded on video tape. V1.0.

**DosControl** - A new directory tool that combines the functionality of many separate tools, allowing you to control the operation of your Amiga with a single program. V3.1.

**FishCat** - A program designed to allow searching the entire library. Features very fast searches & the built-in ability to easily add new disks to the database. Supports many 2.0 features such as AppWindow & public screens. Iconifies. V1.1.

#### Disk 608

**CloneCmdKeys** - Maps the AmigaDOS 2.04 shells cut & paste commands to any keys. By default, *CloneCmdKeys* will make LEFT-Amiga-C act as copy, & LEFT-Amiga-V will act as paste. Alternately, you can specify any key-mapping you like by using *ToolTypes*. Requires AmigaDOS 2.04. V1.0.

**FastLife** - A fast life program featuring an intuition interface, four screen sizes, 35 generations per second on Amiga 3000/25, 19 generations per second on Amiga 2000/500/1000, & 153 patterns in text file format. Runs with Kickstart 1.3 & 2.0. Changes include better intuition interface, easy selection of calculation mode, speed control, task priority control, & tooltypes support. V1.1 - update to V1.0 on disk 469.

**Vertex** - A 3D object editor that differs from other

3D editors in many ways. You can choose any view, including perspective, to select points & examine objects. The view can be rotated, positioned & scaled at will by either typed in values or using the mouse, which makes the editor fast & responsive. V1.28b.

#### Disk 609

**AutoPort** - A software switch that makes it possible to use a trackball or mouse plugged into the first mouseport, together with another trackball or mouse in the second port, as if they were two input devices plugged into the same first port. V1.1.

**bBasell** - A simple database program using an intuition interface. Stores, sorts & searches for information. Limited to 9 fields in each record. Features include fast sorting, search in any field, & best of all, it's really easy to use. V5.3 - update to V5 on disk 563.

**BootPic** - *BootPic* allows you to install nearly any IFF picture that you like in place of the WB hand that appears after a reset. V1.2 - update to V1.1 on disk 532.

**CryptoKing** - A game for those who like to solve Cryptograms. (those coded sentences that have to be decoded to be read). Operate with keyboard or mouse. V1.0.

**STScan** - A utility program for using a Siemens ST 400 SCSI flatbed scanner with the Amiga. Can be adapted to other scanners & serves as an example of scsi-direct access to scsi devices. New features include image processing & vectorization functions that can be used without any scanner. V2.0 - update to V1.0 on disk 560.

#### Disk 610

**ATCopy** - A program to copy files from the Amiga side of a system equipped with a PC/AT bridgeboard, to the PC side, using wildcards. Copies directly through the shared memory. Supports CLI & WB usage. Now includes an AREXX port. Update to V2.2 on disk 458.

**Graffiti** - Demo of an art program, with a feature set somewhat less than DPaint but more than many other such programs. Has a few special functions included like autoscrolling, converting screens to other resolutions, changing RGB values of the whole screen, fast autoscrolling magnifier & many others. V1.5 - update to V1.01 on disk 531.

**PCExecute** - A little program that allows you to execute programs on a bridge-board without opening a PC window.

#### Disk 611

**AntiCicloVir** - A link virus detector that detects ten different such viruses. V1.1.

**TeX** - A complete source & binary distribution of TeX V3.1 & MetaFont V2.7 for 68020/030 with FPU. Because of its size, it's distributed on six disks (611-616) in archived form. Does not include any pk-fonts, previewer, or device drivers.

**WildStar** - Toggles the RNF\_WildStar bit in the DOS library root node, which allows AmigaDOS to use the "\*" character as a true wildcard which is mostly plug compatible with "8?". V1.2.

#### Disk 612

**TeX** - See Disk 611.

#### Disk 613

**TeX** - See Disk 611.

#### Disk 614

**TeX** - See Disk 611.

#### Disk 615

**TeX** - See Disk 611.

#### Disk 616

**TeX** - See Disk 611.

#### Disk 617

**AutoCLI** - A "PopCLI" type replacement that works with WB 2.0 & fully compatible with A3000 & accelerator boards. Always retains the default path & stack, & current directory. Can automatically open CLI/SHELL windows to 1 pixel less than the current screen size on opening. New functions include spline patterning on blanking, toggle freeze mouse, more function keys, mouse activated screen shuffle, close gadgets on Shell windows, & more as many users have requested. V2.17 - update to V2.12 on disk 571.

**Beach** - A great new animation from Eric Schwartz. In "A Day at the Beach", Flip the Frog & Clarisse the Cat head out for a day at the beach where they run into MoonDoggie, Needs 3Mb or more of memory. This is part 1 of 2. Part 2 is on disk 618.

**Revenge** - A fast-action game with horizontal scrolling in which you control a laser-splitting Camel while destroying hordes of weird enemies who are

after your hump. Collect bonuses on the way to obtain more devastating weaponry. In 2-Player & CPU-Assist modes, an Anticlip-creature joins the Camel to make a team. Stereo phased samples, 42 levels in several zones. 512K-NTSC V. 1MEG &/or PAL versions available.

#### Disk 618

**Beach** - Part 1 is on disk 617.

**Contact** - Memory resident "pop-up" program for maintaining a list of names, addresses & phone numbers, or other flat file database applications. Can print labels in up to four columns, to PostScript printers, or any preferences supported printer. Up to two phone numbers can be stored with each entry, & dialed automatically using pulse or tone dialing. Unique sorting feature allows the user to specify the sort key of each record. Addresses can be imported & exported via the clip-board, or output using the unique "type" feature. Notes can also be associated with each entry, using your favorite editor. Has full AREXX support. V2.0.

**VCLi** - Voice Command Line Interface (VCLi) is an Amiga voice recognition program that learns & recognizes 48 spoken voice commands. Each voice command is associated with an Amiga CLI command that is executed when an incoming voice command is recognized. VCLi allows the execution of any Amiga CLI command by voice. Requires the Perfect Sound3 or Sound Master audio digitizer. V4.0 - update to V2.0 on disk 542.

**VoiceDemo** - Illustrates the programming techniques required to use the voice.library to teach your Amiga to learn & recognize spoken voice commands. A simple program that will teach your Amiga to recognize & repeat back to you the spoken words *Peter Piper Picked A Peck Of Pickled Peppers*.

#### Disk 619

**AFaxDemo** - Demo of the AmigaFax software package. Send & receive faxes with your Amiga 500/1/2/3000. Features background fax operation, share one phone line for fax & data (eg UUCP/BBS/FAX), fax spooling, aliases/aliases lists. Converts between fax & text, IFF ILBM, TeX, dvi files & command files, operates from shell or WB. Requires compatible FaxModem. V1.20.

**AmiGazer** - Compute a view of the night sky, using a data base of 1573 stars, for any date, time of day, & latitude. Click on stars for info about them. V3.0 - update to disk 590.

**IFF** - A program to display single or multiple IFF files from WB or CLI. It has been written in 100% assembler to be as small & fast as possible. V1.6.

**Set040** - A program to remap Kickstart V2.04 or greater from ROM into 32 Bit RAM on an Amiga equipped with a 68040 CPU, using the MMU, with optional parameters for greater compatibility between various 68040 boards & optional patch to stop drives from clicking. It can also load a different Kickstart than the one currently in ROM, manipulate both caches, & display information regarding some 68040 registers & modes. V1.12.

**SysInfo** - A program which reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, V's of the OS software, etc. V2.60 - update to V2.56 on disk 583.

#### Disk 620

**Graffiti** - Demo of an art program, with a feature set somewhat less than DPaint but more than many other such programs. Has a few special functions included like autoscrolling, converting screens to other resolutions, changing RGB values of the whole screen, fast autoscrolling magnifier & many others. V1.6e - update to V1.5 on disk 610.

**TKED** - TKED is a very comfortable Intuition-based ASCII editor. It can read texts packed with *PowerPacker*, has user-definable menus, a comfortable AREXX-interface with 79 commands, an interface to some error tools for programmers, & macros. TKED is reentrant & can be made resident. V1.00a.

**TrackDOS** - Allows easy transfer of data between DOS, memory & trackdisk device. DOS means the data contained within a file, memory means the data contained anywhere within the memory map & trackdisk device means data stored on a disk not accessible with DOS (eg bootblocks special loader disks etc.). The transfer of data between these three areas is not normally easy or convenient. *TrackDOS* was written to overcome this. V1.11 - update to V1.08 on disk 502.

#### Disk 621

**IE** - An icon editor which can create & modify icons up to 640x200 pixels in size, up to 16 colors, edit all non-graphical icon parameters including up to 40 tooltypes, generate C source code for icon & image programming, import/export IFF images,



## Fish Disks 551 - 740

recolored icons for DOS2.0, write text into icon in any font & style, & much more. Demo of IE 3.0, a major update to V2.0 on disk number 377. Requires 1 Meg.

**MultiPlayer** - Music player program which plays Soundtracker/Noisetacker modules, MED modules, & over 15 other types. It contains a simple control panel, & allows creating "programs" to play a list of modules in sequence or in random order. Works well with 1.3 & 2.0. Supports WB 2.0's "AppWindow" feature - just drop modules into the MultiPlayer window to play them. Plays modules at the correct speed regardless of video mode (NTSC or PAL). AREXX port & program load/save available in registered version. V1.17 - update to V1.11a on disk 573.

**NComm** - A communications program based on Comm V1.34, by DJ James, with lots of very nice enhancements. Works on any Amiga with 512K RAM or more, ANSI/v100 terminal emulation with 8 color text, PAL NTSC & overscan support, full support for all European languages, baud rates up to 115200 baud, support for lots of file transfer protocols including XPR library protocols, script language, scrollbar buffer, hot keys, an AREXX interface, macros, clipboard support, & more. V2.0 - update to V1.9 on disk 356.

### Disk 622

**Challenger** - Quiz program with 500 questions. V1.0.

**Uedit** - Editor with learn mode, a command language, menu customization, hypertext, online help, a teach mode, split windows, copy & paste, undo, features. V3.0a - update to V2.6h on disk 539.

### Disk 623

**AIB** - A gadtools driven Amiga interface builder for constructing windows, menus, & gadtools. It is incomplete, & was submitted to serve as more AmigaDOS 2.0 example code.

**Makelcon** - A command line utility for creating quick icons for programs that don't have icons. (Not related to Makelcon on disk 255). V1.1.

**PPLib** - A shared library to make life easy for people who wish to write programs that support PowerPacker. Loading crunched files from C or assembly is made fast, short & easy. V1.4 - update to disk 575.

**RemapInfo** - An icon color remapping tool that swaps the colors black & white. The program runs on 1.3, but when run on 2.0 it supports the Applcon feature. It allows you to drag all icons you wish to remap on RemapInfo's Applcon to recolor them. V1.1 - update to V1.0 on disk 542.

**ReqTools** - A standard Amiga shared runtime library which makes a lot quicker & easier to build standard requesters into your programs. Designed with CBM's style guidelines in mind, so that the resulting requesters have the look & feel of AmigaDOS 2.0. V1.0d - update to V1.0b on disk 575.

**WindowTiler** - A WB2.0 commodity that arranges WB windows in many ways (tiling, cascading, etc). Now has a REFUSE tooltype, double click title bar to explode windows, etc. V1.2.1 - update to V1.1 on disk 593.

### Disk 624

**Csh** - Replacement for the Amiga shell, similar to UNIX csh. Main features include over 100 built in commands, 70 functions, new system variables, file name completion, freely programmable command line editing, file classes, auto cd, lazy cd, intuition menus for the shell window, automatic RX-ing, local variables, \$( ), statement blocks, high speed, plus much more. V5.19 - update to V5.15 on disk 512.

**MachIV** - A macro/hotkey program that also includes features of sun mouse, clicktofront, popcli, clipboard viewer, title bar clock, & much more. Each program or window may have its own hotkeys & other settings. Requires 2.x. V4.0 - update to V3.1 on disk 471.

**PCMenu** - Control your pulldown menus from the keyboard using the arrow keys or "first letter matching". Multiple selections made with Shift-Return. Remembers & returns to previous menu items. Completely configurable. V1.5.

### Disk 625

**CanonLBP** - Canon laser printer driver package, containing WB driver, extra preferences program for additional options (landscape, copies, margins, timeout, etc), PageStream drivers, FontShop program, automatic font download, free definable papersizes, & full support for WB 2.0/2.1. V1.01.

**Pattern** - A shared library which matches AmigaDOS patterns with strings & converts strings into uppercase or lowercase, including umlauts.

The library works with Kickstart V1.2 & higher & the pattern matching routines are compatible with ARP & AmigaDOS 2.0 pattern matching. An AREXX function library is also available. One of the external programs included in this package is pgrp V0.4, a small grep command, that finds a string or an AmigaDOS pattern in one or several files, or in stdin (default). V5.0.

**SysInfo** - A program which reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, Vs of the OS software, etc. V2.62 - update to V2.60 on disk 619.

**TurboDEX** - A compiler for the DEX language. DEX is a language similar in structure to Modula2 & C, but different & simpler in concept. Features include compact & fast executables, clear program structure, integration of Exec/Dos/Gfx/Intuition library calls in the compiler, inline assembly, register variables, commented assembly source output, easy to manage development system, & more. V1.1.

### Disk 626

**Info** - A replacement for the DOS 'Info' command, written in assembly. This program has a similar output format & takes the same parameters. It has the added advantage of including maximum filesize in bytes that will fit on a disk. Coded in optimized assembly language, it is smaller than the original DOS command. V1.00.

**LoranNotebook** - A database for storing, searching & printing loran numbers. Store Lats/Lons, TDs, Waypoints, Depths, State, County, Comments, & Quick Comments. Search by any category, & numbers can be searched with a margin of error. Printouts as text only or as a graphic. Select sites on the plot screen by lassoing them. V2.0 includes a lon/lat scale on the plot screen, better zooming, & accurate land areas via the World Database II (included) and/or user drawn. You can now show & edit land on your plots by drawing it in or by making a list of lat/lon points. A small sample database is included. V2.0.

**MMU** - Text file describing the structure of the A3000 MMU translation table & a simple assembler program to read MMU registers.

**QCD** - QuickCD is a program written in assembly to quickly change directories in the current CLI/ SHELL with the mouse & a file requester. Ten often used directories can be saved to a config file & quickly selected. Any unused entries are used to temporarily store the directories you have recently visited, & any of these can be easily & quickly selected or saved with the mouse or a function key. Requires AmigaDOS V2.0x. V1.03.

**SiliconSec** - A bowling league statistics generator. Teams are ranked by win/loss record & total pins. Tracks team & individual statistics. Absent & "blind" bowlers, floating & team subs easily entered. ABC/WIBC award lists, recap forms, simple news-letter article & other options can be generated each week, if you want them. A address list, phone list, mailing labels & end-of-season report meeting ABC/WIBC requirements may be generated any time. Online help with search may be edited by the user. Runs from the WB or CLI. One meg required. V1.51.

**Stuffer** - MIDI Utility to construct & transmit any type of MIDI message. Message building can be done via mouse or keyboard in hex, decimal or mnemonic form. Supports standard MIDI files & Roland SYSEX checksumming. V0.9b.

**WaveMaker** - Realtime waveform generator using Intuition slider gadgets. Allows sounds to be created with a maximum of 8 harmonics. V0.9.

### Disk 627

**Adoc** - A freely redistributable help utility for the Amiga. Allows you to have permanent help on any subject you want. Features include automatic searching of the word on which you clicked, English & French help files on all Intuition & Dos function calls, an intelligent term request, ability to use original Commodore AutoDocs files, an AREXX port, & more. V7.04 - update from V3.10 on disk 402.

**Concentration** - A game in which the player must match pairs of words to win. Takes two players to play & can be played against either another person or against the computer. V3.3.

**FreePaint** - A freely redistributable painting program, much like Paint. V37 - update to V35z on disk 548.

### Disk 628

**Apri** - A freely redistributable printing utility for the Amiga. Features include a full Intuition interface, preview function, page selection, margins setup, line numbering, an AREXX port, a multi-columns mode, & more. V5.00 - update to V2.62 on disk 402.

**Lothian** - Legend of Lothian is an adventure game in the vein of the Ultima game series. It was originally featured in the Sep 91 issue of the Jumpdisk Amiga disk magazine. You play the role of a humble shepherd who is summoned to a perilous task when your country's king is bewitched. You must set out in a dangerous land to find the clues that will enable you to revive your king & save your land. Includes colorful graphics, hordes of monsters to combat, helpful citizens to converse with, & puzzles to solve. V1.02.

**Set040** - Remaps Kickstart V2.04 or greater from ROM into 32 Bit RAM on an Amiga equipped with a 68040 CPU, using the MMU, with optional parameters for greater compatibility between various 68040 boards & optional patch to stop drives from clicking. It can also load a different Kickstart than the one currently in ROM, manipulate both caches, & display information regarding some 68040 registers & modes. V1.14 - update to V1.12 on disk 619.

### Disk 629

**APIG** - AREXX Programmers Intuition Graphics library is an AREXX external function library similar to RexxArLib. APIG.LIBRARY provides the AREXX programmer with access to most of the resident Graphic, Intuition, & Layer library functions. Allows you to create custom screens/windows, gadgets, requesters, intuitext, borders, etc. V3.1 - update to V1.1 on disk 559.

**RexxRMF** - AREXX Record Management Functions library is an AREXX external function library which provides keyed file access using AVL trees. With this library one can index data files for fast search/retrieval of data records. The record management functions allow for variable length keys, variable length records, variable number of fields per record, multiple indices on a single file, duplicate or unique keys, passing of record data directly to/from AREXX variables, etc. V1.8 - update to V0.5 on disk 559.

**Rocky** - Another Boulderdash clone. This one multi-tasks & accepts keyboard or joystick inputs. Loads of game levels. V1.0.

**SrcAnalyzer** - Filter/Statistics program which analyzes standard 68000 assembly source code & produces mnemonics statistics while also filtering out all unrecognized lines. Output files can be fed directly to a small barchart display program "chart" (included). Source to "chart", SrcAnalyzer.

### Disk 630

**BICS** - Boot Intro Construction Set is a tool to create a small intro on the bootblock which will appear if you insert the disk for booting. V1.10, a fully rewritten update to BootIntro on disks 244 & 245.

**Fenster** - Operates on requesters, screens, & windows owned by another program, to close them, change their size, refresh gadgets, move the window to the background, etc. V3.2 - update to V2.2 on disk 362.

**Makelcons** - Utility that uses selected icons as templates to create new icons for files that don't have them. It can also revise existing icons, giving them new images, tooltypes, or positions. It will operate on all icons in a disk or drawer (the user decides whether it will operate recursively or not) or the user can identify specific icons for revision. Unlike the pseudo icons shown by WB 2.0, Makelcons creates real icons, complete with tooltypes, stack size, & so forth. V1.0.

**TrueEd** - A shareware editor. V3.40.

### Disk 631

**AHDM** - Amiga Hard Disk Menu. When placed in your startup sequence, AHDM offers a sixteen page menu, each page having up to ten possible actions. By double clicking on an action, that action will execute any legal AmigaDOS command, program, or script file. This allows you to interactively select which programs you wish to start or packages to install at boot time. V3.00a - update to V1.1a on disk 319.

**Amigadex** - A disk based "address book". It is intended to be used as a personal data base for the names, addresses, & phone numbers of all your friends & business associates. May be used to maintain a small mailing list. Includes a flexible print utility & import function. V1.61.

**KeyBang** - Draws shapes & plays sounds in response to playing with the keyboard & mouse. The sounds are IFF 8SVX samples which you can supply, or use the ones provided. V1.0.

**Offender** - Demo of a fast shoot'em up game based on Williams' Defender game. Runs at 50/60 frames per second. Includes PAL & NTSC Vs. Kickstart 2.04 compatible. Requires 68020 CPU & 68881 FPU or better. V1.01.

### Disk 632

**Attacks** - 2 player strategy game played on a seven by seven grid, modeled after the arcade game called Ataxx. The moves & rules are very simple, but the strategy is complex.

**Copper** - Action game similar to *Arkanoid*. Objective is to destroy all the bricks on the screen with the ball. Some bricks may take only 1 hit to destroy, or as many as 8.

**MRED** - An ANSI graphics editor that allows loading & editing of ANSI color files, commonly used in BBS programs. Features block moves, a line drawing mode, colorize functions, full ANSI sequence support, & more. V1.20.

**PrintFiles** - A freely redistributable print utility to replace the standard WB Printfiles command. Supports AREXX, application icon, & setting up a print list with unlimited number of entries. Requires AmigaDOS-2.04. V0.9e is the English version.

### Disk 633

**GALer** - GALs (Generic Array Logic) are programmable logic devices. 'GALer' is the software & the hardware which is necessary to program your own GALs. The supported GAL-types are GAL16V8 & GAL20V8. The circuit diagram for the GAL device programmer is available from the author. V1.3.

**PlansDemo** - Demo of a drawing program with user definable fonts, over 32000 named lockable layers, definable screen resolution, hierarchical parts & grouping, importing of HPGL plot files, multiple simultaneously loaded drawings, many print options, fully programmable plotter support, 38 mouse drawing modes, over 22 numeric object creation modes, 53 editing modes, rulers, crosshairs, grid, bezier curves, & more. V2.1.

**SoftLock** - Helps prevent unauthorized access of your bootable hard drive by requiring a password each time you reboot. Tested under both AmigaDOS 1.3 & 2.04. V1.0.1.

### Disk 634

**APIG** - AREXX Programmers Intuition Graphics library is an AREXX external function library similar to RexxArLib. APIG.LIBRARY provides the AREXX programmer with access to most of the resident Graphic, Intuition, & Layer library functions. Allows you to create custom screens/windows, gadgets, requesters, intuitext, borders, etc. V3.3 - update to V3.1 on disk 629.

**NewDefTool** - Utility to change the default tool for project icons. Has a user defined configuration file for flexibility. Can change default tool according to old default tool or filenames. Supports the use of appicon, so using NewDefTool is a simple matter of dragging & dropping icons. Requires AmigaDOS 2.0. V1.01.

**NewPrint** - For formatting textfiles so that they will print out as you like them to, not on the perforation or on the plate. Adjustable top, bottom, left & right margins. Optional pagenumbers, header & footer info. V2.1.

**NonClick** - Stops empty floppy drive clicking. Ability to turn clicking on & off on every drive individually. Requires AmigaDOS-2. V1.06.

**Slicer** - Creates abstract art based on mathematical functions, such as the Mandelbrot set, Julia sets, & related abstractions (chaotic dynamical systems). Features include fast fixed or floating point arithmetic, many different functions, many computation options, many coloring & rendering options, batch mode, focus, multi pass, zoom in, zoom out, pan, & four dimensional navigation. The produced pictures can be thought of as cross sections or slices revealing the insides of solid (if imaginary) objects. V2.0 - update to V1.0 on disk 249.

### Disk 635

**BootPic** - Allows you to install nearly any IFF picture that you like in place of the WB hand that appears after a reset. V2.0 - update to V1.2 on disk 609.

**Icons** - A selection of 8 color hires icons for your viewing pleasure.

**LDP** - An AREXX compatible Laser Disc Player for RS-232 serial machines from Hitachi, Pioneer, & Sony. You can have a remote control on the screen and/or the program running to accept AREXX commands. The Hitachi drivers are untested. Works best with AmigaDOS-2.0. V1.31.

**PowerLOGO** - A powerful dialect of the LOGO programming language. Includes all of the support for word & list processing, program code processing, local variables, global variables, free variables, recursion, tail recursion, etc that you expect from LOGO. Also includes support for demons, while loops, menus, screens, windows, window graphics, turtle graphics, reading & writing files, optional inputs for procedures, mutable lists, etc. V1.1 - update to V1.00 on disk 377.

**Disk 636**

**Alert** - Gives detailed information about the meaning of various Amiga alerts given the 32-bit hex alert number. V1.00.

**EDRC** - An extensive configuration file for Matt Dillon's DME text editor, using 10 menus & many functions.

**Electron** - cellular automation. V3.10 - update to V2.01 from disk 584.

**EnvPrint** - Tool for printing envelopes for letters. Just type in the addresses or load them from disk, & EnvPrint will organize the printing job for you. Includes an AREXX port. V1.50 - update to V1.20 from disk 584.

**Henon** - Draws Henon pictures. Includes 3 example parameter collections.

**LISA** - Draws Lissajous pictures. Update to V1.01 on disk 584.

**MemMan** - The Memory Manager can be used to test programs under different CHIP/FAST memory configurations. V1.10.

**Palette** - A very short replacement for the WB1.3 "Palette" program using the req.library's color requester.

**TurboLife** - An implementation of the cellular automation 'Life'. V3.10 - update to V2.01 on disk 584.

**WizardClock** - A WB clock with many features & various languages. V1.30 - update to V1.20 on disk 584.

**WizardsInfo** - General information about the Wizard Works disk 3, from which this material was included.

**WWBatch** - This drawer contains two batchfiles that resident/copies to RAM: the commands used by Wizard Works! program startup batch files.

**Disk 637**

**LAZI** - A graphic interface for the archive utilities Lharc, Arc, & Zoo. LAZI will add, delete, extract, & update single or multiple files, list & test archives, allow you to read extracted .es/docs or any other ascii file, save a configuration file that holds the locations of your work directories, archive utilities, & its position when iconified. At least 1Mb of RAM is recommended. V1.1 - update to V1.0 on disk 592.

**LhA** - A very fast archiver that is compatible with MS-DOS LhArc V1.13 & LhA V2.13, as well as the Amiga LhArc. LhA is very memory efficient, has been written with stability & reliability in mind, has carefully optimized compression & decompression routines, is multitasking reentrant & pure, handles multiple volume archives, & more. V1.22 - update to V1.11 on disk 593.

**MouseAideDEMO** - A demo of a 'Mouse' utility with all the standard functions; mouse acceleration with threshold, window & screen manipulation by mouse & keyboard, mouse & screen blanking, SUN (auto-activation) mouse, user definable 'hot key' command, etc. Also has functions other mouse programs do not, such as multi-icon-select with only the mouse, left & right button swapping, mouse port switching, WB to the front function, freezing of the mouse & keyboard of all input, etc. Written in assembly language for efficiency in size & CPU usage. V3.34a - update to V2.56a on disk 567.

**VideoMaxe** - Manages a video tape collection. In German. V3.22 - update to V3.00 on disk 547.

**Disk 638**

**PowerVisor** - A powerful machine language level debugger for the serious Amiga programmer. Compatible with all Amiga models, all Motorola CPUs from 68000-68040, 68881/68882 FPU's, & the 68851 MMU. Supports AREXX scripts & scripts written in an internal language, online help, some resource tracking, & more. V1.13 beta.

**Run68010** - Allows you to run programs that use 68010-specific instructions on 68000-based machines. Uses self-modifying code. Simulates 68010-specific registers. Starts from both WB & CLI.

**ShellTimer** - CLI stopwatch. Being shell based, the timer can be controlled from AmigaDOS scripts, from AREXX macros, from makelikes, or interactively. Requires AmigaDOS-2.04. V1.0.

**Disk 639**

**DrawMap** - For drawing representations of the Earth's surface. New features include using the full Micro World Data Bank data files, user selection of the items to be included (e.g., coastlines, rivers, etc.) & the amount of detail in each map, & a redraw function. Corrects a problem with box & text selection encountered under AmigaDOS-2.04, but AmigaDOS-2.04 is not required. Requires 1.5 megabytes of memory & a hard disk with 1.6 megabytes of free space. Distributed in two parts, the other part is on disk 640. Release 4. Update to V3.1 on disk 545.

**Technoban** - A Sokoban type game written in

assembly. Features include 4 worlds with 10 levels each, new graphics & sounds in every world, 32 colors, 5 stereo sounds, smooth animation, an integrated editor, & a code for each level. V4.07.

**Disk 640**

**Drawmap** - See Disk 639.

**Disk 641**

**Annotate** - A text editor written for AmigaDOS 2.04 only, that takes advantage of public screens & the system default font. Features include folding, shifting, & full clipboard support. V1.0.

**BootX** - An easy to use boot, file & link virus killer with a KickStart 2.0 look (even under KickStart 1.3). Has lots of options to detect & kill Amiga viruses. V4.45 - update to V4.02 on disk 560.

**EVW** - Early Virus Warning. Designed to let the user get a look at important vectors of the Amiga system. Does buffered scans of all library, device & resource vectors. V2.22.

**GearCalc** - A bicycle gear ratio calculator. V2.2 - update to V2.0 on disk 514.

**LVD** - A first defense utility against file & link viruses. It patches the LoadSeg vector(s) & checks every executable that comes along. Recognizes 25 file or so link viruses. V1.72 - update to V1.61 on disk 554.

**TLog** - Records statistics to monitor athletic training progress. Maintains a daily record of distance, time, heart rate, weight & temperature. Links a text file with the record for a free form diary. The AREXX commands provide the basis for generating custom reports from the data base. Sample script allows TLog to automatically get to a scheduler to post reminders of upcoming events. V2.01 - update to V1 on disk 514.

**Disk 642**

**AutoCLI** - A 'PopCLI' type replacement that works with WB 2.0 & fully compatible with A3000 & accelerator boards. Always retains the default path & stack, & current directory. Can automatically open CLI/SHL windows to 1 pixel less than the current screen size on opening. New functions include spline patterning on blanking, toggle freeze mouse, more function keys, mouse activated screen shuffle, close gadgets on Shell windows, & more as many users have requested. V2.19 - update to V2.17 on disk 617.

**EditKeys** - A keypad editor. Supports editing of string, dead & modifiable keys, as well as control of repeatable & capsable status of each key. Runs equally well under AmigaDOS 1.3 or 2.0. If running under AmigaDOS 1.3, requires 'arp.library'. V1.2.

**IFF** - Displays single or multiple IFF files from WB or CLI. As small & fast as possible. V1.7 - update to V1.6 on disk 619.

**Set040** - Remaps Kickstart V2.04 or greater from ROM into 32 Bit RAM on an Amiga equipped with a 68040 CPU, using the MMU, with optional parameters for greater compatibility between various 68040 boards & optional patch to stop drives from clicking. It can also load a different Kickstart than the one currently in ROM, manipulate both caches, & display information regarding some 68040 registers & modes. V1.15 - update to V1.14 on disk 628.

**SysInfo** - A program which reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, Vs of the OS software, etc. V2.69 - update to V2.62 on disk 625.

**VS2PR** - Converts files to & from VideoScape 3D & PageRender 3D. It preserves & matches colors as closely as possible, & retains surface detail polygons from VideoScape. Good for Video Toaster owners looking for the more mathematical 3D objects that PageRender generates so well. Other features include scaling, batch processing, & a QuickRender module that lets you preview the 3D objects in wireframe. V1.0.

**Disk 643**

**4Wins** - A simple little WB game where the first one to get four happy faces in a row wins.

**DSDemo** - Demo of Distant Suns, an Amiga planetarium program that has collected numerous awards. Comes in two Vs, one that runs under AmigaDOS 1.3 & uses software floating point, & another that runs under AmigaDOS 2.0 & requires a hardware floating point coprocessor. The demo includes a star database with approximately 3700 stars, some limited lunar images, & Halley's comet. Requires 1 Mb of memory. V4.1.

**Install** - A replacement for the AmigaDOS install command, with an intuition front end. V1.1.

**PCTask** - PC-Task is a software IBM-PC emulator. It allows you to run the majority of IBM-PC software on your amiga with no additional hardware. Runs just like a normal application allowing

multitasking to continue. The program has a graphical user interface & no additional filesystem/device mounting is required. A few clicks with the mouse & it is operational. CGA, MDA, Serial, Parallel, Mouse, 2 Floppy drives & 2 Hard drives are emulated. The hard drives can be partitions or hard drive files like the bridgeboard can use. This is demo. V1.04.

**Disk 644**

**FontConverter** - Converts standard font files into C code structures that can be included directly in your program. Probably most useful for people writing programs that take over the machine & thus do not have access to the standard fonts directory.

**SystemInfo** - A system configuration display program with an intuition interface. Recognizes about 80 different product codes & about 40 manufacturer ID's. Displays information about all AutoConfig cards, all mounted drives, vectors, processor types, & other useful information. V2.0a.

**Unsporting** - Another cute Aerotoon animation from Eric Schwartz, starring the A-10 Thunderbolt aircraft, better known as the 'Warthog'. This aircraft's job is to hunt & destroy tanks & other things on the ground, & that is exactly the subject of this animation. Requires 2Mb of memory.

**Disk 645**

**DMD** - A package that adds many powerful features to DME, including outlining & word processing capabilities. Word processing features include spell checking, ANSI code insertion, pagination, double spacing, text justification, requester for inserting any character, find & replace requester, & intelligent paragraph reformatting. Outlining features allow you to write & renumber outlines. Includes many AREXX macros, a large 'edrc' file, a spell checking program, & a dictionary. V2.0.

**Elvis** - A UNIX vi/xx editor clone. Supports nearly all the vi/xx commands, in both visual mode & colon mode. Like vi/xx, elvis stores most of the text in a temporary file, allowing it to edit files that are too large to fit in memory, & the edit buffer can survive a power failure or crash. Also supports most vi 'exrc' definitions, supports user defined TERM & TERMCAP environment variables, works over an AUX: port, supports function keys & arrow keys, & more. V1.5.

**HDFixer** - Some of the newer A3000's have high density floppy drives. In the 37.175V of kickstart, HD disks are not completely supported in HD mode. This program patches the system so that kickstart V37.175 owners are able to use 1.71 MB HD disks in the floppy drive. Requires WB 2.04. V1.0.

**Disk 646**

**AppliGen** - An Application Generator for Superbase III. Create the SBpro DML program's menus without having to do the same work over & over. Creates Superbase DML sources with menus, labels, opening of files, queries, etc. Many user-selectable options (including all SBpro SET commands). Menus can be previewed as intuition menus or text-menus. Sources & included sub-routines can be syntax checked, & exported as ASCII or '.sbp'-file. V1.0.

**KCommodity** - Multifunctional commodity for OS 2.0. Includes window-activator, time-display in several modes & formats, alarm function, KeyStroke-Clicker, time to environment, Window/Screen cycling, LeftyMouse, ESC-Key can close Windows, Revision Control System, telephone bill calculator, Screen-/Mouse-Blanker, Mapping of german 'Umlauts', PopUp Shell, Applcon support, LeftyMouse, user definable HotKeys. Fully controllable via AREXX-Port. All settings can be customized & saved to disk. Requires AmigaDOS 2.0. V1.70.

**MouseAideDEMO** - Demo of a 'Mouse' utility with all the standard functions; mouse acceleration with threshold, window & screen manipulation by mouse & keyboard, mouse & screen blanking, SUN (auto-activation) mouse, user definable 'hot key' command, etc. Also has functions other mouse programs do not, such as multi-icon-select with only the mouse, left & right button swapping, mouse port switching, WB to the front function, freezing of the mouse & keyboard of all input, etc. Written in assembly language for efficiency in size & CPU usage. V4.23a - update to V3.34a on disk 637.

**SoundZAP** - A sound conversion utility that will convert almost any of the sampled sound file formats available on different platforms to the Amiga's IFF 8SVX format or into RAW data. It recognizes .VOC, .au (ulaw, 16, 24, or 32 bit samples), .WAV, & Macintosh headered samples, & converts them appropriately. It can also identify ulaw, signed, & unsigned RAW data, converting it properly. It treats unidentifiable headered files as RAW, so they are treated properly also. V2.3.

**Disk 647**

**Dog** - A puzzle where the object is to push boxes to designated locations. Uses HAM mode & is written in JForth. Relative difficulty for this puzzle is easy, but it will take over a half hour for most people to find the solution. V1.0.

**JM** - Job Manager is a utility which extends the AmigaDOS multitasking environment by providing features such as: allocation of CPU cycles in any ratio to multiple CPU bound processes, default task priorities based on task name, task logging, system uptime reports, task CPU use & CPU % reports, task invocation times, & more. JM has very little impact on the system itself. Requires AmigaDOS 2.04 or later. Includes 68000/20 & 68030/40 Vs. V1.1 - update to V1.0 on disk 602.

**Nova** - A puzzle where the object is to push boxes to designated locations. Uses HAM mode & is written in JForth. Relative difficulty for this puzzle is advanced, & it will take over two hours for most people to find the solution. V2.0.

**PowerPlayer** - A very powerful, user friendly & system friendly module player. It can handle nearly all useful module-formats (NoiseTracker, MED, Oktalyzer, etc.), can read powerpacked modules & comes along with its own cruncher that uses the powerful library written by Krekel/Barthel. Needs the powerpacker.library & the reqtools.library to run, both included in the package. Also includes some sample modules. V2.1.

**PrintDump** - View or print out the voice data in a Yamaha 32 voice bulk dump file. Allows you to choose any single voice to display or print, or it will display or print all the voices in the dump file.

**Vced** - A Voice (Tone) Editor for the Yamaha 4 Operator series synthesizers. V2.0 - update to disk 545.

**YamEx** - A Sytem Exclusive & Voice Librarian program for all Yamaha 4 Operator synthesizers. Works with all 100 voice & 32 voice Yamaha bulk dumps.

**Disk 648**

**AddAssign** - A small system patch & replacement for the standard CLI commands 'assign' & 'path'. With AddAssign, you may assign a logical device (like 'C:') to one OR MORE physical devices (or directories). AddAssign is especially useful for programs which need a library or something else in a specified path, but you don't want them to be there. V1.04.

**AntiClcVir** - A link virus detector that detects 18 different such viruses. V1.2 - update to V1.1 on disk 611.

**Vertex** - A 3D object editor with many features. Has an easy to use interface with many user selectable options. The main view can be easily rotated, positioned or scaled with the mouse, which makes the editor fast & responsive. Special features include fractals, multiply command, point & click editing, an AREXX interface & much more. V1.36.3 - update to V1.28 on disk 608.

**Disk 649**

**AMancala** - This is a slightly modified variant of an old African board game called Mankalla. Zero, one & two player mode, six computer playtypes, protocol function, 12 ranking lists maintained. Also a short online manual, SimpleStep-Learn-Mode & two display modes (numerical, graphical) provided. Usage from both WB & CLI supported. Compatible with Kickstart 1.3 & 2.0. V1.19.

**BrowserII** - A Programmer's WB. Allows you to easily & conveniently move, copy, rename, & delete files & directories using the mouse. Also provides a method to execute either WB or CLI programs by double-clicking them or by self-selecting from a ParM like Menu which lots of arguments. V2.04 - update to V1.0 on disk 540.

**CLiExe** - A XIcon style program. It allows you to execute a script from WB & is completely CLI compatible, because it is a CLI. Can use a real script file or take commands in its own TOOLTYPES. V1.1 - update to V1.0 on disk 540.

**LoadLib** - Another LoadLib program, takes unlimited number of arguments in both CLI/WB & remove the quote (") so it can work in BrowserII at any time. Pure so you can put it in your resident list. V1.0.

**ParM** - Parameterable Menu. ParM allows you to build menus to run whatever program you have on a disk. ParM can run programs either in WB or CLI mode. This is an alternative to MyMenu which can run only when WB is loaded. ParM can have its own little window, can attach menus to the CLI window you are running it from, or to the WB menus, just like MyMenu. V3.6 - update to V3.00 on disk 540.

**Support** - Some libraries & other stuff used by other programs on this disk. Placed here simply to avoid lots of duplication.



**Disk 650**

**EraseDisk** - Erase a disk by setting all bits on the disk to zero. V0.92 - update to V0.69 on disk 544.

**MountShare** - Allows you to reuse the loaded code from one device for other devices that are applicable. Using MountShare, you specify a master device whose handler will be reused by other devices.

**OwnDevUnit** - Update to V2.0 on disk 577.

**P-Animate** - A full 3D Animation program for producing animations in Anim5 format, with emphasis on live characters rather than inanimate objects. Can also be used to produce animated illustrations for use in P-Reader illustrated texts. V2.1.

**P-Compress** - Produces smaller files faster than any other current general-purpose cruncher, using LZH compression algorithms. Can handle single files, whole drawers, disks, or selected files or types of file within drawers & disks. Includes compression & decompression object files which can be linked to your own programs to allow them to access & output data in LZH format. V2.3 - update to V2.1 on disk 595.

**P-FixLib** - A new P-Suite utility that diverts calls to DOS library so that P-Compressed files are decompressed before being opened or executed. Any type of file, including icons, executables, libraries, fonts, texts, etc. may be compressed. Effectively doubles the capacity of your disks. V1.2.

**Disk 651**

**501** - Keeps score for the dart game 501. Games recorded via the keyboard create a data base reflecting each player's performance. The statistics track personal bests, averages, win percentages & high scores. V1.12.

**Icons** - A bunch of 8-color icons for systems running AmigaDOS 2.0. Previously released 8-color icons from the author appeared on disks 213 & 533.

**SID** - A very comprehensive directory utility for the Amiga that supports at least a couple of dozen different commands for operating on files. V2.0 - update to V1.06 on disk 338.

**Disk 652**

**ARTM** - Amiga Real Time Monitor displays & controls system activity such as tasks, windows, libraries, devices, resources, ports, residents, interrupts, vectors, memory, mounts, assigns, locks, fonts, hardware & res\_cmds. V1.6 - update to V1.3c on disk 551.

**bbasell** - Database using an intuition interface. Stores, sorts & searches for information. Limited to 9 fields in each record. Features include fast sorting, search in any field, mailing label support, & best of all, it's really easy to use. V5.32.

**Brain** - A small multitasking game which is made for entertainment during compiling/linking. Your task is to create a formation of numbers from 1 to 4 given randomly by the computer. If you click on an empty plot, a '1' will appear & all neighbours will raise their numbers by one. V1.01.

**Burt** - A Backup Refresh written in Rexx. Designed to maintain backups of important directories between full volume backups. Copies only new & modified files, using either archive flags or date comparison. Can optionally delete from the backup any files & subdirectories not found in the original. V1.00.

**Elements** - Very nice interactive display of the Periodic Table of Elements. Includes general row & column information, plus a test mode where the program asks specific questions about the selected element or row/column. Now is completely Amiga-DOS 2.0 conformant. Path & language information are configurable from the icon, uses 2.0 proportional fonts, can be opened on a public screen, & includes German & Swedish name files. V3.0 - update to V2.3b on disk 593.

**Notify** - A suite of Rexx programs that can be used to issue messages or run commands automatically on certain days and/or at certain times of day. Facilities are provided for the adding, editing & deleting of messages, & for displaying the times & texts of pending messages. A chime program is included to enable the time to be announced at regular intervals. V1.02 - update to V1.01 on disk 603.

**SwitchColors** - Allows you to switch between three palettes: WB 1.x standard colors, WB 2.0 standard colors & your own palette. V2.0.

**Disk 653**

**AniMan** - Combines Amiga animation, speech synthesis, & voice recognition, to provide you with an animated talking head that will run any Amiga program by voice command. Ask for an Amiga program by name, & AniMan will oblige. If AniMan becomes impatient, you may be insulted. Will also recite poetry if you ask nicely. V2.1 of AniMan,

which requires only 512K chip memory & supports both the Perfect Sound 3 or Sound Master (Sound Magic) audio digitizers.

**BumpRev** - Implements easy creation of source code revision headers, similar to the log headers to be found at the top of the Amiga 'C' include files. Is a rewrite of the DoRevision program from disk 325. Can be used for assembler source files as well as C source files. V1.0.

**FileSelect** - A new file requester which is small, fast & has some new features. It has a flexible filter option, optional DOS-gadgets (delete, rename & makedir), displays size of program, is fast, can display all connected devices, etc. V2.0.

**HardBlocks** - A shared library with support routines for Commodore's hard-block standard, & a small tool which demonstrates use of the library. V1.1.

**Mididag** - Displays midi data as well as indicating which midi function was detected. V2.1.

**WBbase** - A handy database which stays as a small window on your Work-bench screen & supports PowerPacked files, even crunching them itself. It also allows you to run programs from it. V1.2.

**WControl** - A printer style controller which stays on the WB screen & allows you to change your printers styles, it works through whatever printer driver you have & so works with all printers. V1.0.

**Disk 654**

**2View** - 2View is an ILBM picture viewer for use under WB 2.0. It supports all standard Amiga graphics modes, SHAM, MacroPaint-style dynamic hires, color cycling, ARexx, & both the CLI & WB. A list of files to display can be given, or each filename can be specified individually. Each picture can be shown for a specified period of time or until the user clicks the left mouse button. V1.50, an upgrade to V1.11 on disk 546.

**DSound** - DSound is an 8SVX sound sample player that plays samples directly off a hard drive, without having to load the entire sample into memory first, making it possible to play samples of any length even under limited memory condition. Fixes bugs & adds support for stereo samples & playing a mono sample out of both left & right channels. In addition, DSound can now be made resident. V1.00 - update to V0.91a on disk 546.

**Intulisp** - A shared library with support routines for using texts, menus, borders, gadgets, requesters, & more, under AmigaDOS 1.3. Includes a template editor & source to library & test programs. V4.0 - update to V3.0 on disk 601.

**NewBoot** - A new bootblock which optionally kills all fastmem, avoids NTSC-Amigas (PAL version only), opens the CLI-screen with the maximum size of 256 pixels (PAL version only), installs a fast TurboFonts routine which speeds up all \_LVTOText activities & changes the color during booting to show that no virus is on disk. All options can be skipped by pressing a mouse button. V1.1.

**SANA** - Main text of the final (v1.0) SANA-II Network Device Driver Specification. To actually develop a SANA-II device or software which directly uses one, you will need additional information (available from CATS). Update to disk 540.

**WBLink** - WBLink adds an 'Appicon' to the WB 2.0 screen that creates a link to whatever file or directory is dragged on top of it. Fixes some bugs & lets the user specify where the icon will be placed. V1.10 - update to V1.00 on disk 546.

**Disk 655**

**Ashido** - A clone of the commercial game 'Ischido'. You must put 62 tiles with 6 different patterns & 6 different colors on a 12x7 board, but only tiles with either same color or same pattern may touch each other. Six different game modes. The best players scores are saved to disk. V1.0.

**Hakkar** - A kind of Adventure Construction Kit based on an easy-to-learn interpreter language. With it, you can create moderately complex multiple choice adventures. Some example adventures are included. V1.6.

**Disk 656**

**CyberCron** - A cron utility for AmigaDOS 2.0. Uses the new, more flexible, AmigaDOS 2.0 technique for running programs. Offers an extended set of options that may be specified for any given event. V1.2.

**JobSpool** - A print spooler written specifically for AmigaDOS 2.0. Has been implemented as a commodity & written with the 'User Interface Style Guide' close at hand. Features a complete font adaptable GUI containing a lot of control gadgets & menus. V1.0.

**Pipeline** - A game like the commercial game 'Pipe dream' (Pipe mania). Needs a joystick. High scores are saved to disk. V2.0 - update to V1.0 on disk 358.

**SurfacePlot** - SurfacePlot is a math tool for drawing 3-dimensional parameterized surfaces. Useful for visualizing the surfaces used in various mathematics classes. Allows you to use three separate functions for the X, Y, & Z coordinates. Includes rotation & zoom for changing the viewpoint. V2.0.

**Disk 657**

**BaldricDemo** - Demo of a commercial platform style game. Works with PAL or NTSC.

**K4Editor** - Demo of a sound editor for the Kawai K4 Synthesizer. Displays & allows editing of all parameters of midi data dumps. V0.99.

**NoDelete** - Pops up a requester to alert you of a file deletion being attempted via DeleteFile() & allows you to accept or cancel it. This also pertains to any files you attempt to delete via delete. V2.01 - update to V1.5a on disk 477.

**Disk 658**

**Bump** - A little tool that makes it easy to keep the version string in your source code up to date. V1.0.

**Enforcer** - Detects/protects against illegal memory hits. Compatible with all OS Vs & machines (requires a Memory Management Unit or 68030 processor). The low 1K of memory & all areas that are not RAM are protected from CPU reads or writes. ROM is marked as read-only. V2.8b - update to V2.6f on disk 474.

**NoFragLib** - A library containing 6 routines for defragmenting memory. V2.2 - update to disk 503.

**RDM** - A fast, small, efficient & easy to use DirUtility with UNIX-compatible packer & endless number of configurable buttons, as well as all the usual features. V0.99.

**Skew** - Skeleton Writer is a tool for generating C code for various Intuition based applications. You click the mouse & the code gets written. Similar to PowerSource & GadToolsBox, but with slightly different functionality.

**View** - A text display with many controls & features including searches, file requestors, jump to editor etc. V2.0 - update to V1.5 on disk 570.

**Disk 659**

**Adventure** - The Colossal Cave Adventure, by Donald Woods & Will Crowther. Runs from the CLI or WB, & is virtually identical to the original main-frame classic. V1.00.

**Celest** - AKA Celestial Caesars, a strategy game for up to nine players. This simple wargame pits you against any combination of human or computer opponents. The game uses an Intuition interface, & can be played by file-mail. V1.11.

**GadToolsBox** - Lets you draw/edit GadTools gadgets & menus & then generates the corresponding C or assembly code for you. V1.3 - update to V1.0 on disk 570.

**MungWall** - Munges memory & watches for illegal FreeMem's. Especially useful in combination with Enforcer. Output can go to either the serial or parallel port. Includes a new MungList program that examines used memory areas for MungWall tag info, & outputs a list of who owns the various pieces of allocated memory, their sizes, etc. Can even identify the owner of the memory by task name. V37.51.

**Disk 660**

**Diamonds** - Drive your little thief buggy around the screen & try to pick up the diamonds while avoiding all the nasties on the screen.

**Eaters** - A screen hack that places a number of creatures called Eaters on the screen. These hungry Eaters live on white dots, con-suming them & leaving black droppings in their place. When not near a white dot, they move randomly. V1.0.

**Kan** - Patches a replacement delete function into the DOS library. This program will simulate the Trashed function provided by WB. Support programs provided to allow automatic purging of Kan directory from startup sequence. Compatible with 1.3, 2.0 & Amiga 3000. V1.0.

**LoveMice** - A short form of the Mice In Love algorithm published in Scientific American. V1.0.

**VMB** - Demo of Video Music Box, a program designed to provide an easy to learn & use environment for Amiga multimedia background music composition, while requiring no prior music compositional knowledge. Basic sequences are generated in many common musical styles from pre-arranged music pattern templates & chord progressions. Special tools provide the ability to add new notes or parts that follow the chord progression. Compositions can be previewed over MIDI or the internal audio, & saved as MIDI or IFF SMUS files.

**Disk 661**

**Citadel** - A full featured Amiga BBS program with all the necessary files to setup your own BBS.

Citadel is a room structured message system with the fundamental design goal of providing a congenial forum conducive to interesting discussions. Messages are stored & retrieved in chronological order within each room. Callers may travel freely between the rooms, reading old messages & posting new ones. This is part one of a two part distribution. Part two is on disk 662. Both parts are required.

**Disk 662**

**BlackHole** - A file deletion utility for v2.04 & greater of the operating system. When run, it puts an appicon on the WB screen. Any file/drawer icons that are dropped on it will be deleted. Double clicking on the appicon brings up an options window. V1.1.

**Citadel** - A full featured Amiga BBS program with all the necessary files to setup your own BBS. Citadel is a room structured message system with the fundamental design goal of providing a congenial forum conducive to interesting discussions. Messages are stored & retrieved in chronological order within each room. Callers may travel freely between the rooms, reading old messages & posting new ones. This is part two of a two part distribution. Part one is on disk 661. Both parts are required.

**Fitness** - A little WB hack with the aim of keeping you fit. A little fellow will pop up on the screen periodically, to remind you to interrupt your work & do some exercises. V1.10.

**HiraganaDemo** - Demo of a Hiragana (Japanese calligraphy) learning module. This module allows the user to see the strokes actually drawn in the proper order to write each Hiragana symbol, as well as hear a digitized pronunciation of the syllable, & a word actually using that symbol. V1.2.

**Ninfo** - A disassembler for memory, boot blocks, objects, libraries, & executables. V2.0.

**Space Citadel** - Space Empire is a multiplayer game for up to 25 players. The documentation shows how to set it up as a door for the Citadel BBS. V2.6.

**Disk 663**

**DebugUtils** - Some tools for use in debugging applications. When used with Enforcer & Mungwall, they comprise an integrated set that gives the programmer a powerful & flexible debugging aide.

**DeskJet** - A CLI/WB interface to control a Hewlett-Packard Desk-Jet 500 printer, enabling the user to select an internal font to print one or more files, or to initialise the printer. V2.16 - update to V2.10 on F539 (where it was called PF).

**DiskTest** - A utility to test the integrity of floppy disks, ala Norton Utilities. V1.18 - update to V1.12 on disk 539, where it was called DT.

**ENote** - Edit a filenote easier than with the standard filenote program. V1.0.

**UnixUtils** - A collection of UNIX like programs for the Amiga. Includes head, tail, sort, strings, diff & find. The first four are original programs; find is derived from tree by Tomas Rokicki; diff is a port of the GNU V.

**XNote** - Execute a filenote. It looks a little like the Project icon of the WB, but this time in the CLI. V1.0.

**Disk 664**

**AntiCicloVir** - A link virus detector that detects 21 different such viruses. V1.3 - update to V1.2 on disk 648.

**DockIcon** - A Collection of miscellaneous icons with a definite NaXT flavor, for AmiDock, ToolManager, & a new graphical interface under development.

**Ischido-matic** - An Ischido type game. Lots of features, like single player, two players, tournament mode, highscore tables, sound, etc.

**Shiftit** - A small game, for installation on the WB. Useful if you must wait for the compiler or something else.

**Disk 665**

**Arq** - Replaces the standard system requesters with nice animated requesters which you can also attach different sounds to. Works under AmigaDOS 1.3 or 2.0 to give all the normal system requesters a nice new look. V1.66 - update to V1.61 on disk 527.

**DiskSpeed** - A disk speed testing program specifically designed to give the most accurate results of the true disk performance of the disk under test. Automatically updates & maintains an ASCII database of disk results for tested disks. V4.2 - update to V4.1 on disk 574.

**Intrepid** - An arcade/strategy game in which you must navigate a high tech tank through the Antarctic to rescue a scientist taken hostage by terrorists. V1.5.



**Disk 666**

**Catacomb** - A graphic adventure game set on a small island in the middle of the land of EXOUSIA. Your quest is to discover the secrets & treasures of this underground maze, while staying alive. V1.6

**KME** - KME is another keypad editor, that you can use to edit the Amiga keymaps used by the Setmap command. V1.2

**Spectroscope** - Realtime frequency analysis with PerfectSound-2 compatible audio digitizers. V1.1

**Disk 667**

**Cooltunes** - Two volumes of songs written with MED. Includes 'Exarch', 'Sedative', 'Hypersonix', & 'SlowPlay'. Uses MEDPlayer to play the songs.

**PopUpMenu** - Makes it possible for you to use pop-up menus with any program that uses standard intuition menus. V4.3 - update to V3.5 on disk 422.

**Disk 668**

**Exploding** - Exploding windows that explodes & implodes windows in a fancy manner, catches all window resize & move events, works with all OpenWindowTags, & installs as a commodity. V1.0

**Textra** - This easy-to-use text editor allows multiple windows, & provides a simple mouse driven interface. Those familiar with the 'Macintosh style' editors will be comfortable with Textra's Cut, Copy & Paste commands. Docs included. V1.12 - update to V1.0 on disk 239.

**VLT** - VLT is both a VT100 emulator & a Tektronix (4014 plus subset of 4105) emulator, currently in use at SLAC (Stanford Linear Accelerator Center). Although the VT100 part was originally based on Dave Wecker et al.'s VT100, many enhancements were made. Features include use of ARP, an AREXX port, XMODEM 1K/CRC & Kermit protocols, support for additional serial ports, external file transfer protocols (XPR), a 'chat' mode, & scrollbar/review/history buffer. It comes in two Vs, one with Tektronix emulation, & one without. The Tektronix emulation allows saving IFF files, PostScript files, & printing bitmaps to the printer. V5.517 - update to V5.045 on disk 468.

**Disk 669**

**Leggi** - A powerful ISO/ANSI text reader which strictly follows Commodore's application guidelines. Features include unlimited number of windows on any public screen, scrolling with both mouse & keys, full AUISG menus & AREXX commands, clipboard support, AppWindows, fast & residentable activator, full configurability of the keyboard, preferences file & editor to change preferences, background mode, & more. V2.0

**Post** - An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 & type 3 fonts, screen output, file output, & printer output. Requires App library V3.9+ & ConMan V1.3+ (only under AmigaDOS 1.3). V1.7 - update to V1.6 on disk 518.

**SCSIutil** - A CLI utility to issue commands to a SCSI disk using a specific SCSI ID number. Commands include inquiry, seek, start/stop motor, read sector(s), read capacity, etc.

**VirusChecker** - A virus checker that can check memory, disk bootblocks, & all disk files for signs of most known viruses. Can remember nonstandard bootblocks that you indicate are OK & not bother you about them again. Includes an AREXX port. V6.05 - update to V5.30 on disk 556.

**Disk 670**

**DirWork** - A fast, small, efficient, DirUtility. Configurable options & buttons, as well as all the usual features. Comes with external configuration editor. V1.51 - update to V1.43 on disk 570.

**Mostra** - IFF utility featuring real-time unpacking scroll, dozens of options, 'smart' analysis of any IFF file (FORMs, LISTs, ... also nested ILBM!), total control over display modes, simple slideshow processing, pattern matching, SHAM, an external link to show Dynamic Mode pictures, double buffering, fast decompression, color cycling, TeXdocs, startup files for easy custom configurations & complete WB support, through ToolTypes & StyleIcons! V1.06 - update to V1.04 on disk 476.

**Scan** - Scans file contents for matches to one or more specified patterns. Claimed to search hard drives twice as fast as the best search programs currently available, & RAM drives five times faster than other programs. Can optionally scan the contents of files in LZH & LHA archives. Supports searching for multiple patterns simultaneously. Other features include extensive wildcard support, optional inverted pattern matching, recursive directory scanning, line search highlights of matching words with selectable color, & more. V1.0

**Disk 671**

**dvi2tty** - Converts TeX's dvi output files to ASCII format for printing or previewing on text terminals. V4.0

**JcGraphDemo** - Demo of a Business grapher with intuition interface. JcGraph can show your data as bar, line, planes, stack, blocks, 2D & 3D, etc. Features realtime rotation around X, Y, Z axis, on-line help, professional looking 2D & 3D graph output, & more. Can output EPS, 3D GEO, AegisDraw2000 & IFF ILBM format files. Demo V0.903.

**mkmake** - A make file generator, originally written for Turbo-C & MS-DOS, & now ported to the Amiga by the author. V0.3

**MPE** - A compiler tool for users of the M2amiga programming environment. MPE does the same job better than your batch file. You can do everything with the mouse or the right amiga key. With this Modula-2 Programming Environment you can compile, link, & run your program. When there is an error, the editor is started automatically. You can set all switches for M2C, M2L & M2Make. V1.0

**str2tex** - Converts documents in UNIX troff format to LaTeX format. It is intended to do the first pass of the conversion, with the user finishing up the rest of the conversion. Most of the converted document will be in LaTeX format, but some of it may be in plain TeX. V1.02.

**Disk 672**

**Indent** - A C source code formatter/indenter. Especially useful for cleaning up inconsistently indented code. V1.3 - update to V1.1 on disk 262.

**SKsh** - A ksh like shell for the Amiga. Some of its features include command substitution, shell functions, aliases, local variables, emacs & vi style command line editing, I/O redirection, pipes, UNIX style wildcards, a large variety of commands, & coexistence with scripts from other shells. Well documented. New features include real pipes, AmigaDOS 2.04 support, enhanced AREXX handling, & more. Requires AmigaDOS 2.04. V2.0 - update to V1.7 on disk 489.

**Disk 673**

**KCommodity** - Multifunctional commodity for OS 2.0. Includes window-activator, time-display in several modes & formats, alarm function, KeyStroke-Clicker, time to environment, Window/Screen cycling, LeftMouse, ESC-Key can close Windows. Revision Control System, telephone bill calculator, Screen-/Mouse-Blanker, Mapping of german 'Umlauts', PopUp Shell, Appicon support, LeftMouse, user definable HotKeys. Fully controllable via AREXX-Port. All settings can be customized & saved to disk. Requires WB2.0. V1.75 - update to V1.70 on disk 646.

**Offender** - Demo of a fast shoot'em up game based on Williams' Defender game. Runs at 50/60 frames per second. Includes PAL & NTSC Vs. Kickstart 2.04 compatible. Requires 68020 CPU & 68881 FPU or better. V1.02 - update to V1.01 on disk 631.

**SANA** - The official Commodore developer information package for the SANA-II Network Device Drivers. Includes the SANA-II spec, e files, SANA-II drivers for Commodore's A2065 (Ethernet) & A2060 (ARCNET) boards, docs & includes. More complete package than just the specification included on disk 654.

**ShellTools** - Four small useful programs. PIPE provides command line pipes, HISTORY allows the history to be loaded, saved, & listed, FOREACH is a fancy loop & variable expansion command, and RECORDER saves all console input & output in a file.

**Disk 674**

**Hextract** - A complete header file reference. Definitions, structures, structure members & offsets, flag values, library contents, function definitions, registers, library offsets, etc. The data from a set of V1.3 Amiga & Lattice header files is packed into the included file 'headers.z' for immediate reference by Hextract. V1.1

**IFFLib** - An easy to use Amiga library which gives you some powerful routines for dealing with IFF files, especially ILBM files (pictures), ANIM files (animations), & 8SVX files (digitized sounds). It is written completely in assembler & is just 3Kb. Includes source & binaries for several example programs that use the library. V2.2 - update to V1.6 on disk 301.

**NewIFF** - V37.9 of new IFF code modules & examples for use with the Release 2 ifparse library. This code release is again 1.3 compatible (the 37.8 release was not). This code is intended to replace the 1985 EA IFF code modules, providing significant enhancements including support for arbitrary display modes & overscan (2.0), clipboard load/save, centralized string handling (for ease of local-

ization), & simplified subroutines for displaying, saving, & printing ILBMs, & the 8SVX reader now plays!

**P-Writer** - A text editor with special facilities for inserting text color & style changes & for preparing illustrated texts for P-Reader. V3.3 - update to V3.2 on disk 595.

**Disk 675**

**F2C** - Translates Fortran 77 source into C or C++ source. F2C lets one portably mix C & Fortran, & makes a large body of well tested Fortran source code available to C environments. Amiga port done for SAS/C 5.10B, & includes libraries for use with SAS/C.

**Disk 676**

**FBM** - An Amiga port of the Fuzzy PixMap image manipulation library. This package allows manipulation & conversion of a variety of color & B&W image formats. Supported formats include Sun rasterfiles, GIF, IFF, PCX, PBM bitmaps, 'face' files, & FBM files. Also has input converters for raw images, like Digi-View files, & output converters for PostScript & Diablo graphics. Besides doing format conversion, some of the other image manipulation operations supported include rectangular extraction, density & contrast changes, rotation, quantization, halftone grayscale, edge sharpening, & histograms. Disk 676 contains m68000 binaries & docs, disk 677 contains m68020/m68881 binaries, & disk 678 contains the sources. V1.0

**Disk 677**

**FBM** - See Disk 676.

**MakeLink** - A replacement for the original AmigaDOS 2.0 MakeLink command. Supports both hard & soft links. Residentable. V1.1

**Mostra** - IFF utility featuring real-time unpacking scroll, dozens of options, 'smart' analysis of any IFF file (FORMs, LISTs, ... also nested ILBM!), total control over display modes, simple slideshow processing, pattern matching, SHAM, an external link to show Dynamic Mode pictures, double buffering, fast decompression, color cycling, TeXdocs, startup files for easy custom configurations & complete WB support, through ToolTypes & StyleIcons! V1.07 - update to V1.06 on disk 670.

**Vigna PM** - A tool that monitors the Amiga system's CPU usage using some hooks that are available in 2.04 EXEC. Uses the high resolution EClock timer to get real time values for the amount of time the processor spends running tasks & the amount of time it spends between tasks (in task switch & in sleep). V37.8.

**Disk 678**

**FBM** - See Disk 676.

**PPLib** - A shared library to make life easy for people who wish to write programs that support PowerPacker. Loading crunched files from C or assembly is made fast, short & easy. V1.5 - update to V1.4 on disk 623.

**ReOrg** - ReOrg is a fast disk optimizer that can be used for floppy disks & hard disks. Supports new Kickstart 2.04 features including hard & soft links, & High-Density drives.

**ResAnalyzer** - An OS 2.04 compatible ResModules monitor. ResAnalyzer can show you all information related to Captures, KickMemPtr, KickTagPtr, KickChkSum & ResModules entries in the ExecBase structure. A great help for resident modules developers & for people who want to check if something (like a virus) is resident in memory. ResAnalyzer can detect ResModules OS 2.04 system flags. V2.2

**Disk 679**

**Backcoupling** - A simulation of screen/camera/backcoupling. Generates a series of backcoupled pictures out of a start picture. You can change several parameters, such as sharpness, rotation angle & signal translation. V1.0

**RayShade** - Ray tracing program. (See Disk 596). Update to V3.0 on disk 596.

**Disk 680**

**ATAP** - Adobe Type Access Package allows users of Professional Page (Gold Disk, inc.) & compatible applications to use typefaces available from Adobe Systems or other vendors. Includes AFM & screen font converters, sample AFMs & screen fonts from the Macintosh, & a Macintosh/USA1 keypad.

**SatTrack** - For satellite tracking. Allows for selection of a database that can contain up to 300 satellites. Tracks satellites on a graphics display of the world. All graphics are IFF compatible, allowing for loading of display to standard painting program. Allows for input of satellite information using either standard data format or by simple user input. All operations use standard windows & menus.

**SatTrack** has a simulation mode that allows for predictions in the future. Demo copy. V2.1A.

**VirusChecker** - A virus checker that can check memory, disk bootblocks, & all disk files for signs of most known viruses. Can remember nonstandard bootblocks that you indicate are OK & not bother you about them again. Includes an AREXX port. V6.06 - update to V6.05 on disk 669.

**Disk 681**

**Term** - A gift-ware telecommunications program written for AmigaDOS release 2.x (Kickstart 37.175 & WB 37.67 or higher required). Features include total configurability, full AREXX control, Xpr-transfer support, filetype identification after download, cut & paste/point & click on screen, auto upload & download, scrollable review buffer of unlimited size, solid & fully-featured VT100/VT220/ANSI emulation, optional fast atomic terminal emulation, hotkey support, powerful phonebook & dialing functions, ability to save & print the contents of the screen as IFF-ILBM or ASCII file, full overscan & screen resolution support (new ECSS screen modes included), asynchronous operation & a lot more. Comes with seven Xpr-transfer libraries (ascii, jmodem, kermit, quickmodem, ymodem & zmodem) & documentation both in German & in English. V2.2a - update to V1.9c on disk 589.

**Disk 682**

**AmiBack** - Demo of AmiBack v2.0, a nice backup utility for the Amiga. Features include backup to any AmigaDOS compatible device (such as floppies, removable hard disks, fixed media hard disk, & tape drives), compression, no copy protection, configuration files, complete backups, incremental backups, selective backups, file exclusion filter, setting of archive bit, password protected backups, online help, AREXX support, etc. Demo does not have restore. V2.0a - update to V1.04 on disk 517.

**CyberCron** - A cron utility for AmigaDOS 2.0. Uses the new, more flexible, AmigaDOS 2.0 technique for running programs. Offers an extended set of options that may be specified for any given event. V1.3 - update to V1.2 on disk 656.

**ReqChange** - Patches the system requesters to use the similar requesters in ReqTools library. It also patches the ARP requester & all requesters in Req library. It is very flexible, allowing you to modify where the requester should appear, which of the libraries to patch, etc. Includes a pair of small utility programs, GetFile & ReqAsk, that can be used in scripts to put up file requesters or other requesters. V1.08

**RexxHostLib** - This is a shared library package to simplify the AREXX host creation/management procedure. Rexx-message parsing is also included making it possible to control AREXX from programs such as AmigaBASIC (can you imagine AmigaBASIC controlling AmigaTeX?). V37.1 - update to V36.14 on disk 403.

**Zoom** - A fast & efficient floppy disk archiving utility based on the data compression/decompression algorithms used by IILibrary. Has an Intuition & a Shell interface, fully supports Kickstart 2.0, is able to add texts & notes to archived output files, knows 274 different bootblock viruses, includes a number of compression parameters (such as encryption of the output file) & a lot more. V5.4 - update to V4.1 on disk 459.

**Disk 683**

**GMC** - A console handler with command line editing & function key support. GMC provides extended command line editing, function key assignment in four levels, extended command line history, online help for functions in the handler, & an iconify function. Also includes an output buffer (dump to printer & window), filename completer, script function, undo function, prompt beeper, pathname in window title, close gadget for KS 2.0, etc. V9.13 - update to V9.11 on disk 587.

**KFAST** - Key Frame Animator with Skeletal Technique. A collection of functions to implement a two-dimensional object based animator designed to use the skeletal technique of modeling objects & simple tweening to free the animator from the labors of producing smooth transitions between key drawings. A crude demo program has been included utilizing the routines. V0.5

**LE-NAG** - Reminds you of events before you miss them. Events can be scheduled to occur once or repeat daily, weekly, monthly or yearly. You can be alerted of the event in a number of ways from a screen flash to a message requester. V9.25.02

**PrintFiles** - A freely redistributable print utility to replace the standard WB Printfiles command. Supports AREXX, application icon, & setting up a print list with unlimited number of entries. Requires OS 2.04. Update to V0.9 on disk 632.

**ShowLink** - Tool to list hardlinks. Also tells



## Fish Disks 551 - 740

which file or directory the link points at. V1.1.

### Disk 684

**AL** - Archive Lister. Recognizes & lists contents of archives created by ARC, LHarc, LHA, LZ, ZOO, APE, ZIP, WARP, DMS & ZOOM. AL is fully standalone & doesn't call upon the original archivers to list contents.

**CpuClt** - A hack in the spirit of 'CpuBlit'. Replaces the BitClear() call in graphics.library with an 68030 optimized processor routine.

**EmptyHandler** - Another example of a filehandler. This one creates empty files of any given length.

**MagPages** - A software package that allows you to create & display a disk-based magazine. The magazine produced is of a similar format to that of a traditional paper magazine. You can combine text & graphics on a single page, branch to different sections by clicking on icons & play sound & music. Features a full intuition driven interface. V1.30 - update to V1.0 on disk 372.

**PlaySound** - A tool to replay IFF-8SVX sounds using double-buffering while the sound file is being loaded from disk. Also serves as an ifparse.library & audio.device programming example. Requires Kickstart & WB 2.04 (or higher). V1.1.

### Disk 685

**PrintDisk** - A label database which prints & stores disk labels for 3.5" & 5.25" disks. Primarily created as a combined database & print utility for FD disks, it includes easy-to-use label library functions (like printing labels for a whole FD series in one turn or multiple print of one label) & labels for most FD disks which are available within a few mouse clicks. Features include a fast search routine, user-definable label layout, different label sizes, intuition-based disk directory read-in & a lot more. Very configurable. Works fine with every printer connected to the parallel port & AmigaDOS 1.2, 1.3, & 2.x. V3.51, a major update to V3.4.3 on disk 567.

**FreeCopy** - FreeCopy is unlike most copiers in that it does not actually copy disks. It removes the protection so disks can easily be backed up with almost any program, & in some cases be installed on your hard drive. V1.8 - update to V1.4 on disk 498.

**MCMaster** - MCMaster is another cassette tape cover printing utility which works together with any printer which supports pica & line. Other features include a search function & a list function which allows you to put all the song names in a list gadget to scroll around. V1.1.

**PublicManager** - Public screen tool which opens public screens which are freely configurable (depth, size, font, etc) & have their own menu (palette, quit, tools, etc). Includes two little tools to modify the public screen modes & the default public screen. V1.2.

**YatZ** - One player Yatzee game. V1.1 - update to V1.0 on disk 498.

### Disk 686

**BonAppetit** - Recipe database manager that automates recipe collections & allows for far more flexibility than regular index cards. You can search for recipes by title, keyword, or ingredient. You can import recipes in BonAppetit's own format or 3 popular MS-DOS formats, so you can quickly build a recipe collection. Includes complete recipe utilities & 24 recipes to get you started. V1.3. New features include recipe browsing, mass export, less cryptic error messages, & many bug fixes.

**DWIcons** - A collection of icons for WB 2.0, including some that are for an interfaced WB.

**DWFPresets** - A collection of AmigaDOS 2.0 presets for pointers, palettes, screen modes, & WB backdrop patterns.

**MultiBox** - Request utility which can be used in scripts. Unlike other tools (QuickRequest, Request, etc) it uses checkbox gadgets.

**NewPos** - A tool to resize & move the active shell window directly or from scripts.

### Disk 687

**AmigaEMS** - For Amiga bridgeboard users that allows you to use any amount of Amiga memory as expanded memory on the bridgeboard. AmigaEMS is LIM/EMS 4.0 compatible. V1.01.

**FracBlank** - A commodities screen blanker written for Kickstart & Workbench 2.04 (or higher). When running will blank the screen & start to draw real plane fractals such as described in the September 1986 issue of Scientific American. The resulting images may remind you of spiders' webs, lace or even the Chladian patterns formed by grains of sand strewn across a vibrating surface. V2.2 - update to V1.8 on disk 588.

**PowerPlayer** - A very powerful, user friendly & system friendly module player. It can handle nearly

all useful module-formats (Noisetracker, MED, Oktalyzer, etc.), can read powerpacked modules & comes along with its own cruncher that uses the powerful lib.library written by Krefel/Barthel. Needs the powerpacker.library & the reqtools.library to run, both included in the package. Also includes some sample modules. V2.7 - update to V2.1 on disk 647.

**SFCoder** - Allows you to encrypt & decrypt files by using a password. Uses complex routines to assure the security of your data. Requires AmigaDOS 2.0 to run. V3.0.

**XPRD** - eXternal Protocol Driver. A standalone driver utility for doing file transfers with XPR libraries. Has many features like carrier checking & return code redirection (for "stupid" languages).

**XSB** - eXternal ScreenBlanker Standard. Documentation & examples of a new library standard for fancy screenblankers. Includes Standard, Shuffle & Psychedelic blankers. AmigaDOS 2.0 only.

### Disk 688

**OctaMEDPlayer** - Standalone player for playing songs made with OctaMED. Can load sng-samples-format & MMD0/MMD1-modules made with MED V2.10 or later, or OctaMED. Can play standard four channel Amiga songs, MIDI songs, 5 to 8 channel OctaMED songs, & multi-modules. Has a nice 2.0 look & works fine under 2.0 as well as 1.3. V3.00.

**ScreenSnap** - ScreenSnap allows you to save & close screens of any application. It requires OS 2.04 & includes German documentation. V1.12.

**UpdateIcon** - A tool to add icons to files & drawers which do not yet have icons attached, to update the default tools & to reset the positions of icons. Very handy for installation scripts. Requires Kickstart & WB 2.04 (or higher). V1.0.

### Disk 689

**AssignWedge** - An AssignX clone, redesigned from the ground up, which fixes a couple of potential bugs in the original program & is also able to cope with an internationalized operating system. Kickstart & WB 2.04 or higher required. V1.1.

**Phone** - A funny strategy game. Your goal is to connect everyone to the phone system without running out of wire. The country in which these people live is full of high mountains, deep rivers, & highly frequented roads, so connecting everyone up may not be easy.

**TKED** - TKED is a very comfortable Intuition-based ASCII editor. It can read texts packed with PowerPacker, has user-definable menus, a comfortable AREXX-interface with 102 commands, an interface to some errorlogs for programmers, macros, undo, supports foldings, & many other features. TKED is reentrant & can be made resident. It also checks itself for link-viruses. V1.05 - update to V1.00a on disk 620.

### Disk 690

**FastGif** - A fast GIF87 file writer written in very optimised asm, but displays only pictures with no more than 32 colors. Supports overscan, NTSC & PAL display, allows scrolling for big pictures. V1.00.

**Find** - Yet another file find utility, different from other programs of this kind in that it requires Kickstart & WB 2.04 (or higher) to run, sports a font-sensitive user interface, includes WB Applcon/AppWindow support, filetype identification & other goodies. V1.7.

**HDFixer** - Some of the newer A3000's have high density floppy drives. In the 37.175V of kickstart, HD disks are not completely supported in HD mode. This program patches the system so that kickstart V37.175 owners are able to use 1.71 MB HD disks in the floppy drive. Requires WB 2.04. V1.10 - update to V1.00 on disk 645.

**Rescue** - A non-multitasking shoot'em up game with smooth scrolling in three directions, four different pieces of music, highscore list, cheat mode, etc. Automatically notices if started on an NTSC or PAL machine, & uses full PAL screen or NTSC overscan screen.

**VirusHunter** - A harmless screen hack.

### Disk 691

**CManual** - Disk 1 of a 5 disk distribution of one of the largest collections of documents, examples, & utilities in C for the Amiga. It consists of six manuals, with more than 40 chapters, 175 fully executable examples complete with source code, & several utilities & other goodies. The manuals describe how to open & work with Screens, Windows, Graphics, Gadgets, Requesters, Alerts, Menus, IDCMP, Sprites, VSprites, AmigaDOS, Low Level Graphics Routines, etc. They also explain how to use your C Compiler & give you important information about how the Amiga works & how your programs should be designed. When unpacked, the manuals & examples nearly fill up twelve stand-

ard Amiga floppies. V3.0 - update to V2.0 on disks 456 & 457. Because of its size, it is distributed on five library disks, 691 through 695.

### Disk 692

**CManual** - Disk 2 - (SEEDescription ABOVE) it is distributed on five library disks, 691 through 695.

### Disk 693

**CManual** - Disk 3 - (SEEDescription ABOVE) it is distributed on five library disks, 691 through 695.

### Disk 694

**CManual** - Disk 4 - (SEEDescription ABOVE) it is distributed on five library disks, 691 through 695.

**CrossMaze** - A crossword puzzle game where the player is given the words but no clues. The object is to find a way to place all the words back into the puzzle. Options include 10, 20, or 30 word games with one or two players. V1.0.

**Kan** - Patches a replacement delete function into the DOS library. Simulates the Trashcan function provided by WB. Support programs provided to allow automatic purging of Kan directory from startup sequence. Compatible with 1.3, 2.0 & Amiga 3000. V1.0a - update to V1.0 on disk 660.

**PgmToShd** - Takes a standard PGM format graphics image & creates from it a PPM image containing information to view black & white images in 151 shades of gray instead of the Amiga's standard 16. It uses the monochrome composite video output jack available on the Amiga 500 & 2000, so provided you have one of these computers & a monitor capable of receiving its input through composite video, no modifications are required to the Amiga. The PBMPlus library of graphics manipulation routines is required to make use of this program, as well as a standard IFF viewer such as Mostra. A sample test image is included. V1.0.

### Disk 695

**CManual** - Disk 5 - (SEEDescription ABOVE) it is distributed on five library disks, 691 through 695.

**Calc** - A powerful calculator with many features, including user-defined variables & functions, C-style programming constructs, complex number calculations & more. Has comprehensive instructions, & numerous examples. V2.0 - update to V1.1 on disk 550.

**PPData** - A small utility for crunching data files using Nico Francols' powerpacker.library. Requires Kickstart 2.0 or later.

### Disk 696

**CLITools** - Two small shell commands, touch & time, which behave like their UNIX cousins, & can be made resident. Kickstart 2.0 or later required.

**Drivers** - Printer drivers for the Canon BJ10, BJ20, BJ130, BJ300, BJ330, & the 9 pin Epson mode Star printers. Includes preferences programs for controlling additional options such as margin, timeout, job end signal, arXon switch box, greyscale conversion function, customized tab stops, default typeface, & more.

**IFSLab** - An Iterated Function System fractal generator. This one focuses on the Collage Theorem. It permits you to draw an approximate outline of the planned fractal, then create the collage directly, jigsaw-puzzle style, from actual reduced images of the outline that you can manipulate & deform with the mouse. The attractors of the resultant IFS codes can be rendered in black & white or in grayscale, & saved to IFF files. V1.0.

**MemSnap** - A small memory monitor useful for seeing how much memory other programs take up. Based on a program called Memeter, which broke under Kickstart 2.0. Requires Kickstart 2.0 or higher.

**TinyClock** - A cute little analog clock with lots of features, including pop-to-front, hourly chirp, & alarm. Size & colors used are configurable, & it uses very little memory or cpu time. Requires Kickstart 2.0 or higher.

**WindowTiler** - A WB2.0 commodity for arranging windows. Comes with many tool types to help customize it. Supports virtual screen users, tiling, cascading, refusing windows & screens, exploding windows, etc. V2.1b - update to V1.2.1 on disk 623.

### Disk 697

**Hackdisk** - A complete replacement for trackdisk device minus support for 5.25 inch & 150RPM floppies. It offers a verify option & is faster than trackdisk 2.0. Hackdisk is supplied as a Rom-Tag module & may be RAMKick'ed or placed directly in the Kickstart ROM. V1.10.

**HiSpeed** - A high speed printing utility for DeskJet printers. Output is reduced to about 1/4 of

its original size. The maximum processing speed is 4 pages/min. Supports ANSI ESC codes (e.g. Italics), single or double sided printing, multiple copies, & free layout. Two fonts are available. DeskJet RAM cartridge required. V2.7.

**QMouse** - An unusually small & feature-packed mouse utility. Was inspired by, but not derived from, the original QMouse by Lyman Epp. Features include automatic window activation (like WindX), top-line blanking for A3000/A2320 users, system-friendly mouse blanking, mouse acceleration/threshold, 'Pop-CLI', click-to-front/back, 'SunMouse', 'NoClick', 'WildStar', Northgate key remapping, & more. Requires Kickstart 2.0, but is not a commodity. Only 3K. V2.10.

**TypoGrapher** - A softfont editor package for 24-pinwriters & DeskJet printers (any model). Editor supports Laser fonts, DeskJet fonts, Amiga fonts, pinwriter fonts & IFF files. Features include about 40 drawing commands, special effects (e.g. 3D look), import/export of IFF images, generation of width tables, & more. Includes several tools for easy download (e.g. simulation of 'soft' font cartridges). Requires at least 1Mb of memory. V2.05.

### Disk 698

**SCRAM500** - The first of a series of Public Domain 'KitWare' hardware projects for the Amiga. On this disk you will find the design for an 8Meg RAM & SCSI controller for the Amiga 500. You will also find an order form to obtain PCB, chips & whatever you need to build one. The SCRAM 500 is easy to build, cheap & should be useful to a lot of people. Included in this distribution is complete documentation on how to assemble a SCRAM 500, notes for Amiga 1000 owners, a description of the custom chips, design notes, troubleshooting guide, user's manual, bill of materials, 12 HPLG plot files for schematics & PCB layout, hard drive partitioning software, a mountable device driver, a ROMable driver, & more!

### Disk 699

**EZAsm** - Combines 68000 assembly language with parts of C. Produces highly optimized code. Uses C-like function calls (supports all 2.04 functions), braces, 'else', 'if' support, & much more. Comes bundled with A68k & Blink, for a complete programming environment. V1.7 - update to V1.6 on disk 592.

**IFFConvert** - Converts the different compression methods of IFF ILBM files. It supports the normal compression, a new compression method that compresses column by column instead of row by row, & uncompressed files. V1.11.

**MungWall** - Munges memory & watches for illegal FreeMem's. Especially useful in combination with Enforcer. Output can go to either the serial or parallel port. Includes a new MungList program that examines used memory areas for MungWall tag info, & outputs a list of who owns the various pieces of allocated memory, their sizes, etc. Can even identify the owner of the memory by task name. V37.52 - update to V37.51 on disk 659.

**ReOrg** - ReOrg is a fast disk optimizer that can be used for floppy disks & hard disks. Supports new Kickstart 2.04 features including hard & soft links & High-Density drives. Includes program Vs in English & German for use with Kickstart 2.0 only. V2.3 - update to V2.1 on disk 678.

**Shrink** - A new archiver that uses dynamic arithmetic encoding with a dictionary size from 1-64Kb. Slower than other archivers, but seems to get better compression ratios. Another interesting feature is that it uses a new IFF format for its archive files. V1.1.

**Sizer** - Reports the size of selected disk objects (including subdirectories). It reports the number of bytes in all plain files & the number of blocks occupied by files & directories. It is intended for the WB user who wants to know if there is room to drag-copy one or more icons.

### Disk 700

**TextPlus** - TeXtPlus Professional is a TeX frontend word processor. Now you are able to create TeX documents without having to know anything about the professional typesetting program TeX. Makes use of PasTeX, Georg Hessmann's Amiga implementation of TeX. Updates to the 3.00 versions on disk 484.

### Disk 701

**Du** - Displays the total disk space used by a directory & all its sub-directories. Enhancements include wildcards, totals, clearer output plus the program can be made resident. Requires Kickstart 2.0. V2.5 - update to V1.0 on disk 416.

**Examiner** - Will question you with files produced by SpellCheck. Smaller than SpellCheck, looks better under AmigaDOS 2.0, & has some extra features. V1.0.

**GNUPlot** - An interactive function & data plotting program which supports a great number of output devices. Includes extensive on-line help. V3.2 - update to V3.0 on disk 552.

**SpellCheck** - Aids learning foreign words. You enter the words & translations - then the computer quizzes you later. V1.3, update to V1.2 on disk 606.

### Disk 702

**A-Gen** - Demo of a popular genealogy database. Now supports PAL. Demo is complete but limited to 200 persons/70 marriages, & does not have on-line help. A-Gen includes a text-editor to add free-form reports to records & allows you to show digitised pictures from within the program. Also includes Ordinances for Church of Latter Day Saints users. Pedigree charts & family group sheets, among other reports, can be printed. Needs 1Mb Ram. V4.18 - update to V3.10 on disk 425.

**DoubleSquares** - Game played on a 10x10 board, where the goal is to set as many tiles on the board as possible. There are 100 different color combinations for a single tile, & rules which control where tiles may be placed.

**Indent** - A C source code formatter/indenter. Especially useful for cleaning up inconsistently indented code. V1.4 - update to V1.3 on disk 672.

**PointToPoint** - A board game where each player gets to alternately set one of his stones on the board until the last field is occupied. The goal of the game is to enclose as many stones of the opponent as possible. V1.1.

### Disk 703

**BootX** - An easy to use boot, file & link virus killer. For use with KickStart 2.0 only. Has lots of options to detect & kill Amiga viruses, extensive manual, locale support & AmigaGuide online help. V5.00 - update to V4.45 on disk 641.

**HunkX** - A utility to examine the hunk structure of executables, static libraries, dynamic libraries or object files. Supports all AmigaDOS 2.0 hunks. KickStart 2.0 only. V2.00.

**LVD** - A first defense utility against file & link viruses. It patches the LoadSeg vector(s) & checks every executable that comes along. Recognizes 33 file or so link viruses. V1.73 - update to V1.72 on disk 641.

**MAssign** - A little command to make 'M'ultiple assigns. Allows you to remove all assign & makedir statements from your startup-sequences. KickStart 2.0 only. V2.00.

**MPE** - A compiler tool for users of the M2amiga programming environment. MPE does the same job better than your batch file. You can do everything with the mouse or the right amiga key. With this Modula-2 Programming Environment you can compile, link, & run your program. When there is an error, the editor is started automatically. You can set all switches for M2C, M2L & M2Make. V1.17 - update to V1.0 on disk 671.

### Disk 704

**Flex** - A replacement for the UNIX 'lex' (lexical analyzer generator) program that is faster than lex, & freely redistributable. Lexical analyzer generators are generally used in combination with parser generators (such as yacc or bison), to generate frontends for language compilers & other tools. V2.3.7 - update to V2.3 on disk 407.

**GrabIFF** - Lets you grab any screen, window, portions of a screen or a mousepointer - image as an IFF-ILBM-file, which can be used by nearly any paint program on the Amiga. Gives you lots of useful options. Implemented as a commodity. V1.00.

**PowerPlayer** - A very powerful, user friendly & system friendly module player. It can handle nearly all module-formats, can read powerpacked modules, & comes along with its own cruncher that uses the lib library written by Krekel/Barthel. Has a simple to use user interface & an AREXX port. Needs the powerpacker library & the regtools library to run, both included in the package. V3.0 - update to V2.7 on disk 687.

**SFCoder** - Allows you to encrypt & decrypt files by using a password. Uses complex routines to assure the security of your data. Requires AmigaDOS 2.0. V3.2 - update to V3.0 on disk 687.

**SPClock** - A clock that uses sprites to display the time. This allows the clock to remain visible no matter what screen is being displayed & no matter where you scroll on a WB 2.0 autoscrolling screen. V2.1.

**SunClock** - Displays a map of the world showing the portion that is presently illuminated by the sun. V1.0.

### Disk 705

**CrossMaze** - A crossword puzzle game where the player is given the words but no clues. The object is to find a way to place all the words back into the puzzle. Options include 10, 20, or 30 word

games with one or two players. V1.0a - update to V1.0 on disk 694.

**FishCat** - Allows searching the entire library. Was written specifically for KS 2.0. Features very fast searches & the built-in ability to easily add new disks to the database. Supports many 2.0 features such as AppWindow & public screens. Includes. Adds a simple AREXX port, printing, compact update files, & fixes all known bugs. V1.2 - update to V1.1 on disk 607.

**MFR** - Magic File Requester is a replacement for other file requesters. Features include complete keyboard control, nice outfit, proportional font support, multiple directory caching, file find mechanism, file class support, file notification, many configuration options, history list, etc. V2.0a.

**NewIFF** - New IFF code modules & examples for use with the Release 2 ifshare library. This code release is again 1.3 compatible (the 37.8 release was not). This code is intended to replace the 1985 EA IFF code modules, providing significant enhancements including support for arbitrary display modes & overscan (2.0), clipboard load/save, centralized string handling (for ease of localization), & simplified subroutines for displaying, saving, & printing ILBMs. & the 8SVX reader now plays! V37.10 - update to V37.9 on disk 674.

### Disk 706

**ABackup** - A new backup utility for the Amiga. May be used both for hard disk backup & for file archiving. Has a full Intuition interface, can save/load file selections, handles HD disks, etc. V1.31.

**APR** - A freely redistributable printing utility for the Amiga. Features include a full Intuition interface, preview function, page selection, margin setup, line numbering, an AREXX port, a multi-columns mode, 2.04 system release support & more. V1.30 - update to V5.00 on disk 628.

**AUSH** - A new command line interpreter, designed to replace the CBM shell. Features include file name completion, pattern expansion, expression computation, command history, for...done loops, & much more. Almost fully compatible with ARP or Commodore shells. V1.42, with full support of AmigaDOS 2.04, a heavily modified parser, 'pure' code, a few Enforcer/Mungwall hits removed, & other bug fixes & enhancements. Requires 'arp.library' under 1.3.

**PatchDOS** - Enhances OS 2.04 with three new features: keyboard-shortcuts for menus while a string-gadget is active, use of the star (\*) in AmigaDOS pattern matching & input of any char by typing its ASCII-code on the numeric pad. Requires at least AmigaDOS 2.04. Implemented as a commodity. V1.00.

**WalkingMan** - A small screen hack that makes a variable number funny men appear on the WB Screen & CustomScreens. They move depending on the graphics shown & changing graphics will be noticed by them.

### Disk 707

**AMines** - A small game, like the X-Window's game X-Mines. The aim of the game is to detect all of the 99 mines in a 30 by 16 playing field. Selecting a field uncovers a number that indicates how many of the adjacent fields contain mines. V1.1.

**Aniso** - A small puzzle game for your WB screen, similar to the 'Brain game'. Played in a small window containing two 3 by 3 grids. One grid is already filled with numbers between one & four, & the other is empty. The goal is to form an image of the first grid by clicking on squares in the empty grid.

**MungWall** - Munges memory & watches for illegal FreeMem's. Especially useful in combination with Enforcer. Output can go to either the serial or parallel port. Includes a new MungList program that examines used memory areas for MungWall tag info, & outputs a list of who owns the various pieces of allocated memory, their sizes, etc. Can even identify the owner of the memory by task name. V37.54 - update to V37.52 on disk 699.

**RayShade** - (See Disk 679). V4.0PL6 Release 0.5 - update to V4.0PL6 Release 0.4 on disk 679.

### Disk 708

**HardBlocks** - A shared library with support routines for Commodore's hardblock standard, & a small tool which demonstrates use of the library. V1.2 - update to V1.1 on disk 653.

**Icons** - Some WB 1.3 icons with a WB 2.03D look. They also look pretty good under 2.0 when simply run through one of the many icon remapping tools available.

**Intuisup** - A shared library with support routines for using texts, menus, borders, gadgets, requesters, & more, under AmigaDOS 1.3. Includes a template editor & source to library & test programs. V4.2 - update to V4.0 on disk 654.

**SmartED** - Demonstration release of a DX7 voice editor, librarian, bulk storage utility. When you run

the Smart-ED demo you have one voice. Load, Save, & Receive voice have been disabled. V1.0.

**VoiceBoy** - A small WB utility which allows you to use DX7 voice libraries produced by both Smart-ED DX7 & Music-X. Also contains a voice library drawer with a total of 64 voices for you to try out. V1.1.

### Disk 709

**CPUClr** - A small hack, inspired by CPUBlt, that replaces the BitClear routine of the graphics library with a highly optimized 68020 (or higher) routine. This results in about a 60% speed up on a 68020 & should be even more on a 68030/68040. V2.0.

**LittleBoulder** - A 'Pick'n Run' Action-game, which contains eight different levels to be completed within a certain time limit. V1.0.

**Planets** - 2 programs to calculate the positions of the planets & the moon (as viewed from a specific point on the earth), for an arbitrary date & time. V1.1 - update to V1.0 on disk 321.

**ThinkAMania** - Concentration board game. Excellent hires graphics, funny sound effects & enormous fun for up to 2 players. All options are available & the complete set of stones is integrated. V2.9 - update to V2.1 on disk 541.

### Disk 710

**AntiClioVir** - Link virus detector that detects 25 different such viruses. V1.5 - update to V1.3 on disk 684.

**bBasell** - Database for WB. Stores, sorts & searches for information. Limited to 9 fields in each record. Features include fast sorting, search in any field, mailing label support, & best of all, it's really easy to use. Enhancements include a 270% increase in storage capacity, range search, & add or delete a field. V5.5 - update to V5.32 on disk 652.

**CryptoKing** - A game for those who like to solve Cryptograms, (those coded sentences that have to be decoded to be read). Operate with keyboard or mouse. V1.1 - update to V1.0 on disk 609.

**TypoGrapherFix** - Patch for the TypoGrapher v2.05font editor on disk 697. It fixes a bug which kept the program from running on KickStart 1.3 machines.

### Disk 711

**MouseAideDEMO** - A demo of a 'Mouse utility' with all the standard functions; mouse acceleration with threshold, window & screen manipulation by mouse & keyboard, mouse & screen blanking, SUN (auto-activation) mouse, user definable 'hot key' command, keyboard 'string' macros, etc. Also has functions other mouse programs do not, such as multi icon select with only the mouse, left & right button swapping, mouse port switching, WB to the front function, freezing of the mouse & keyboard of all input, etc. Written in assembly language for efficiency in size & CPU usage. V5.02a - update to V4.23a on disk 646.

**Solitaire** - Solitaire game of klondike solitaire. The rules can be varied, & there are five different ways of working through the deck. Also includes an undo function that will un-move more than the last move, a wrapup function for when a game is all but won, a palette requester to fine tune the colors to your liking & a save-setup function that remembers how all the options are set. V1.9 - update to V1.8 on disk 511.

**TheWeb** - A graphic diagram based, interactive environment for data acquisition & processing. This is a freely distributable demonstration edition that has a restricted set of modules, & cannot save things to disk, but is otherwise fully featured. The concept is of data packets travelling along paths between data handling elements. Configurations are built by placing & connecting the desired elements on screen using the mouse. Needs the 2.04 or later operating system & at least 1MB of memory. V1.1.

**Windowtool** - Switch between windows, to close them & to change their size. You can also open a new shell & stop multitasking. The program is a standard commodity & can be controlled by the WB exchange program. V1.0.

### Disk 712

**AniMan** - AniMan combines Amiga animation, speech synthesis, & voice recognition, to provide you with an animated talking head that will run any Amiga program by name, & AniMan will oblige. If AniMan becomes impatient, you may be insulted. AniMan will also recite poetry if you ask nicely. V3.0 of AniMan, an update to V2.1 disk 653.

**HamLabDemo** - Demo of an expandable image format conversion utility that converts GIF, IFF, JPEG, Targa, BMP, TIFF, PBMPLUS, MTV, Spectrum 512, QRT, & Sun images into IFF (normal, HAM, half-brite, & 'sliced' variations of each). Images can be scaled, dithered, color corrected, & cropped. This demo is limited to processing images of 512 by 512 pixels or less. V2.0.6 - update to V1.1 on disk 466.

**JEyes** - XEyes, a program which opens a window on the WB screen containing eyes, which follow the cursor about the screen. V3.0.

**Solitaire** - Klondike solitaire. Provides multiple options including six different decks, customizable game rules, game timer, the ability to view a stack, & an undo feature.

### Disk 713

**Free** - Display how much free space (bytes or blocks) you have on any or all of your mounted disk volumes. Runs from CLI only. Free now searches your device list if desired (under AmigaDOS 2.0+ only), & several minor bugs have been fixed. V1.06 - update to V1.01 on disk 388.

**ICalc** - A powerful calculator with many features, including user-defined variables & functions, C-style programming constructs, complex number calculations & more. Has comprehensive instructions, & numerous examples. Enhancements include flexible number-base control & scripts to perform numerical integration. V2.1a - update to V2.0 on disk 695.

**JoinSounds** - A utility to join 8SVX sound files. Graphical interface allows samples to be previewed, & start/stop points to be set. This program will join both stereo & mono sound files in any combination. Uses buffered disk I/O, allowing samples larger than available memory to be joined. V2.0.

**LongPlay** - An 8SVX IFF sound file player. Reads samples directly from disk while playing, allowing unlimited length samples. Runs as a background task & multi-tasks well. Can also be used as the default tool of a project icon.

**MathsAdv** - A game where you, the young adventurer, must try to escape the king's Maths Adventure. To do this you must pass through a series of rooms. In each room you are given a math problem to solve, after which you can proceed to the next room if you answer correctly. The problems become more involved & more difficult in each room. Update to disk 602.

**ReflexTest** - A game which tests your addition, subtraction, or multiplication skills. The goal is to answer forty math questions in the shortest possible time.

### Disk 714

**CoGo** - An engineering/surveying program to solve coordinate geometry problems for highway design, surveying, subdivision layouts & construction. Needs 1 Mb of memory. CLI only with output to screen or printer. Manual, with sample problems, available from author. V1.0.

**JoeyDemo** - A demo of a Sokoban type game where your task is to push Grulies (the only food of the Joey) to the stock, which is designated with little rhombic symbols on the floor. To complicate things there are iceblocks & teleporters.

**XStat** - A UUCP utility that computes several statistics from the Xfer-Stat file (similar to UUTraf). Offers lots of options. Requires Andrew Kopp's uucico V1.15c or later, & also Kickstart 2.04 (V37.x) or later. V1.07.

### Disk 715

**Intuisup** - A shared library with support routines for using texts, menus, borders, gadgets, requesters, & more, under AmigaDOS 1.3. Includes a template editor & source to library & test programs. V4.4 - update to V4.2 on disk 708.

**LHA** - A very fast archiver that is compatible with MS-DOS LhArc V1.13 & LHA V2.13, as well as the Amiga LhArc. LHA is very memory efficient, has been written with stability & reliability in mind, has carefully optimized compression & decompression routines, is multitasking reentrant & pure, handles multiple volume archives, & more. V1.32 - update to V1.22 on disk 637.

### Disk 716

**BCount** - A utility to count files, directories, hardlinks, & softlinks for a given root directory. Requires AmigaDOS 2.04. V1.12.

**ReOrg** - ReOrg is a fast disk optimizer that can be used for floppy disks & hard disks. Supports new Kickstart 2.04 features including hard & soft links & High-Density drives. V2.31 - update to V2.3 on disk 699.

**TalinCode** - A bunch of source code for demos, tests, & experiments, that the author wrote over a period of 8 years, mostly for recreation or for general R&D for projects that never materialized. Includes 3D techniques, a maze generator, logarithms, basic utility functions, dos functions, random numbers, & much more.

**Wesp** - A picture format converter. Input formats supported include GIF (87a), IFF (lores, hires, HAM, EHB, 24-bit, sliced, dynamic, etc.), SRGR, Sun rasterfile, PPM (P5 & P6), HL2, & MTV. Output formats supported include IFF, SRGR, & PPM. V2.02beta.



## Fish Disks 551 - 740

**ZMachine** - Can interpret Zork Implementation Language (ZIL) data files. ZIL is the language used by the interactive fiction series of games from Infocom Inc. V1.0.3.

### Disk 717

**ADev11** - Development system for Motorola's 68HC11 processor, including: macro assembler, linker, librarian, downloader & disassembler. Supports multiple source file & multiple relocatable segments per file.

**ALock** - A limited multiuser security system for your Amiga. V1.04.

**FileStat** - Facilitates the editing of all information about a file, such as protection bits, name, comment, etc., using a graphical interface. V2.

**PacMan** - A pacman type game with 20 levels, 5 bonus levels, & extra tools. Automatically adjusts to either PAL or NTSC. Can be controlled with a joystick, mouse, or keyboard. V1.1A.

**Spaceil** - A hot-key program with over 50 functions including four screen blankers, screen shifter, path/filename transmitter, text reader, virus checker, boot block display, calculator, disk copier and/or formatter, palette selector, screen dumper, etc. V2.3 beta.

**ViewIcon** - Program to view icons from the shell. Opens up a sufficiently sized window so that the icon can be displayed in it. If you click the icon, it has the same effect as clicking it on the WB, so you can see the icon's alternate image. V1.0.

### Disk 718

**BootPic** - Allows you to install nearly any IFF picture that you like in place of the WB hand that appears after a reset, & additionally plays a MED-Module. V2.1b - update to V2.0 on disk 635.

**Less** - A port of a UNIX text file reader. It can use pipes, accepts multiple filenames, & has many convenient positioning commands for forward & backward movement, marking positions, etc. V177.4 an update to V1.42 on disk 511.

**Settime** - Set the system time from the internal hardware clock. Written to be very small & fast. Also includes V's that can be installed as boot blocks. V0.9.

**SmallMath** - 'Drop-in' replacements for the Commodore IEEE math libraries for users with a math coprocessor. Since these libraries do not contain the coprocessor emulation code normally present, they are 60%-90% smaller than the usual libraries. For the same reason, however, they cannot be used without a coprocessor. V1.1.

### Disk 719

**CrcLists** - Complete CRC check files for disks 521-710 using the bkr program. These were made directly from my master disks. Along with the CRC lists from previous disks, these lists will allow you to check all of the disks in the library to make sure they are correct & complete.

**DefTool** - Programs that allow you to easily change the default tool of one or more project icons, from either the CLI or from WB. The WB version is a commodity.

**DrawMap** - For drawing representations of the Earth's surface. New features include seven new types of map projections, user specifiable point to be at the center of the maps, & box views that can now cross the international date line. Also includes accelerated version requiring a 68020 CPU & 68881 FPU, & versions for PAL systems. Requires 1.5 Mb of memory & a hard disk with 1.6 Mb of free space. Distributed in two parts, the other part is on disk 720. Both parts are required. V4.1 - update to V4.0 on disks 639 & 640.

**FixIcon** - Fixes some icons that show bad markings when run on greater than 4 color WBes. Doesn't fix them all, but fixes a common problem.

**Makelcon** - Allows you to create any of the WB2.0 default icons for anything, disks, projects, drawers, the works. Designed for people who work from the shell making disks that will ultimately run from the WB. Requires WB 2.0.

### Disk 720

**DrawMap** - Drawing representations of the Earth's surface. New features include seven new types of map projections, user specifiable point to be at the center of the maps, & box views that can now cross the international date line. Also includes accelerated version requiring a 68020 CPU & 68881 FPU, & V's for PAL systems. Requires 1.5 Mb of memory & a hard disk with 1.6 Mb of free space. Distributed in two parts, the other part is on disk 719. Both parts are required. V4.1 - update to V4.0 on disks 639 & 640.

### Disk 721

**DataFiler** - A database for names, addresses, phone numbers, etc. Has search & print capabilities. V1.01.

**DirWork** - A fast, small, efficient, DirUtility.

Configurable options & buttons, as well as all the usual features. Comes with external configuration editor. V1.62 - update to V1.51 on disk 670.

**Division** - Helps to develop & sharpen division skills. Has four levels, a practice section, & a testing section. V1.1.

**DPU** - Disk Peek & Update, a hex disk & file editor. Functions include show device info, show bitMap, check disk, zap file, zap disk, zap fileSystem & zap rigid disk blocks. V1.2.

**Octohello** - An othello type game, but played on an octagonal board. There are hundreds of variations to the game, with resizable boards, different corner shapes, & a play to lose mode.

**VCR** - A database for all your VCR tapes. Has built in search & print capabilities. V1.1.

### Disk 722

**Counting** - Educational - helps kids to develop & sharpen skills in addition, subtraction, & multiplication. V1.0.

**Intuisup** - A shared library with support routines for using texts, menus, borders, gadgets, requesters, & more, under AmigaDOS 1.3. Includes a template editor & source to library & test programs. V4.5 - update to V4.4 on disk 715.

### Disk 723

**AniMan** - AniMan combines Amiga animation, speech synthesis, & voice recognition, to provide you with an animated talking head that will run any Amiga program by voice command. Ask for an AniMan becomes impatient, you may be insulted. AniMan will also recite poetry if you ask nicely. Either the Perfect Sound 3 or Sound Master (Sound Magic) audio digitizer is required, along with 1Mb of fast memory. V3.2 - update to V3.0 on disk 712.

**DiskMate** - A multitasking floppy disk utility. Features include multidrive disk copier, disk formatter, disk eraser, disk checker & installer. V2.1.

**EternalRome** - A historical strategy game, that in spite of its high complexity is fast & easy to play. Fully mouse controlled with a fine zoomable map of the Roman empire (overscan & interlaced options). The simulation delivers many historical insights because of its accuracy (may be used for educational purposes) & is a challenging & entertaining game for two or more players (also interesting for solitary studies). V1.1, an enhanced update to V1.0 on disk 502.

**MemGauge** - A graphical memory gauge. Displays your computer's memory (chip, fast, public) in three horizontal bars. V1.2.

**PrinterCTRL** - A printer interface which allows you to send raw HEX & device driver commands to your parallel printer. Also has provisions for printing text files to the printer device. Makes extensive use of the req.library functions. V1.00.

### Disk 724

**Backup** - For hard drive backup - features a custom Intuition interface, multi floppy drive support, incremental/full backups, on the fly compression using l.h.library, optional verify & a restorable configuration. Backup requires WB 2.0, ap.library V39 & l.h.library V1. V3.5.

**Genies** - A collection of more than forty ARExx genies for use with Professional Page, plus some supporting material. Also includes two example ARExx scripts for ArtDepartment Professional. V1.0.

**XSearch** - A program to search files & directories on any Amiga device. Uses AmigaDOS 2.0 style interface.

### Disk 725

**MagIcon** - Takes fake icons dropped on the Apicon & turns them into real icons. Also supports a Tools menu entry so fake icons spread over several windows can be easily iconified. Support for 38 file formats & the appropriate icons are included. Requires Kickstart 2.0 or higher. V1.0.

**Mine** - A new Module-2 implementation of an old computer game. You have an N \* N square with mines hidden in some fields. Your job is to mark them with a flag as fast as possible. Highscore lists are supported. Requires AmigaDOS 2.0.

**SnoopDos** - A utility for monitoring AmigaDOS calls. In particular, it allows you to see what libraries, devices, fonts, environment variables or startup files a program is looking for. Very useful when you're trying to install a new application. V1.5 - update to V1.2 on disk 451.

**Term** - Comms program written for AmigaDOS 2.0. Includes: total configurability, full ARExx control, Xpr-transfer support, filetype identification after download, cut & paste/point & click on screen, auto upload & download, unlimited size scrollable review buffer, solid & fully featured VT100/VT220/ANSI emulation, optional fast atomic terminal emulation, hotkey support, powerful phonebook & dialing functions, ability to save & print the contents of the screen as IFF-ILBM or ASCII file, full overscan & screen resolution

support (new ECS screen modes included), asynchronous operation & a lot more. Includes full source. Because of its size, it is distributed on two disks. This is part 1 of 2. Part 2 is on disk 730. V2.3 - update to V2.2a on disk 681.

### Disk 726

**HamLabDemo** - Demo of an expandable image format conversion utility that converts GIF, IFF, JPEG, Targa, BMP, TIFF, PBMPPLUS, MTV, Spectrum 512, QRT, & Sun images into IFF (normal, HAM, halftone, & 'sliced' variations of each). Images can be scaled, dithered, color corrected, & cropped. This demo is limited to processing images of 512 by 512 pixels or less. V2.0.8 - update to V2.0.6 on disk 712.

**Hextract** - A complete header file reference. Definitions, structures, structure members & offsets, flag values, library contents, function definitions, registers, library offsets, etc. The data from a set of V1.3 Amiga & Lattice header files is included & packed for immediate reference by Hextract. V1.2 - update to V1.1 on disk 674.

**P-index** - For creating active index/selector pages to replace the normal window/icon display. Appearance of pages is only limited by the capabilities of your paint program & your imagination. Index lines can be shown as arrays of boxes (as with current 'selector' programs), or as icon look-alikes, or anything else you fancy, with normally a large saving in disk space.

**P-Reader** - An all-purpose reader that displays texts, pictures, animations & sounds, which may be uncompressed or compressed with 'P-Compress'. Texts can include embedded static or animated illustrations & sounds. Includes scrolling & a variety of screen colours, with other enhancements & bug fixes. V6.2 - update to V5.2 on disk 595.

**PowerSnap** - A utility that allows you to use the mouse to mark characters anywhere on the screen, & then paste them somewhere else, such as in another CLI or in a string gadget. Checks what font is used in the window you snap from & will look for the position of the characters automatically. Recognizes all non proportional fonts of up to 24 pixels wide & of any height. Works with AmigaDOS 2.0 in both shell & WB environments. V2.0 - update to V1.1 on disk 542.

### Disk 727

**2View** - An ILBM picture viewer for use under WB 2.04 or later. It supports all standard ECS graphics modes, SHAM, Macpaint-style dynamic hires, color cycling, ARExx & both the CLI & WB. V1.52 - update to V1.50 on disk 654.

**Adventure** - The Colossal Cave Adventure, by Donald Woods & Bill Crowther. This program runs from the CLI or WB, & is virtually identical to the original mainframe classic. V1.10 - update to V1.00 on disk 659.

**Format** - A 2.04-only replacement for the AmigaDOS Format command. It uses a much more complete VB user interface (allowing for greater control over formatting from WB) & is smaller than the original Format command. V1.00.

**Vertex** - A 3D object editor that differs from other 3D editors in many ways. You can choose any view, including perspective, to select points & examine objects. The view can be rotated, positioned & scaled at will by either typed in values or using the mouse, which makes the editor fast & responsive. V1.62a - update to V1.36.3 on disk 648.

### Disk 728

**501** - Keeps score for the dart game 501. Games recorded via the keyboard create a database reflecting each player's performance. The statistics track personal bests, averages, win percentages & high scores. V1.15 - update to V1.12 on disk 651.

**LastRefuge** - A fast action game, written entirely in assembler. Takes over the entire machine & loads off a special bootable disk. Uses lhwarp (included) to regenerate the bootable game disk.

**PatchMan** - An editor for the Roland JD-800 programmable synthesizer. You can receive/transmit/save/load single patches, the special setup, all internal patches, 'ALL'-data, set parameters for the three effect systems used in Multi mode & edit the various part parameters. V1.0.

### Disk 729

**BBBBBS** - Baud Bandit Bulletin Board System. Features include up to 99 file libraries with extended filenames, up to 99 fully threaded message conferences, number of users, files, messages, etc. are only limited by storage space, controlled file library & message conference access for users & sys-ops, interface to extra devices like CD-ROM & others, all treated as read only, complete Email including binary mail, & multiple forwarding, user statistics including messages written, files uploaded or downloaded, time, etc. plus much more. V5.4.

**DSound** - DSound is an 8SVX sound sample

player that plays samples directly off a hard drive, without having to load the entire sample into memory first, making it possible to play samples of any length even under limited memory conditions. Adds sample looping, the ability to abort using CTRL-C, & the ability to prevent DSound from opening a window. V1.20 - update to V1.00 on disk 654.

**FF** - A file find utility for use under WB 2.04 or later. It features a full, font-sensitive GUI, AppWindow support, dynamic find-list update, the capability to recognize both hard & soft links, & the ability to optionally descend into hard links to directories. V1.01.

### Disk 730

**Term** - This is part 2. Part 1 is on disk 725.

### Disk 731

**FindIt** - A fully Intuitionised file finder. Features include search multiple drives/directories, search for file names starting with/not starting with given text, file names containing/not containing given text, file names ending with/not ending with given text, files created on/after/before/not-on given date, files containing given text, etc. Found files can be copied, deleted, viewed, or printed. Requires WB 2.0, V1.0.

**GadToolsBox** - Draw/edit GadTools gadgets & menus & then generates the corresponding C or assembly code for you. V1.4 - update to V1.3 on disk 659.

**QMouse** - An unusually small & feature-packed 'mouse utility'. Was inspired by, but not derived from, the original QMouse by Lyman Epp. Features include automatic window activation (like WinDX), top-line blanking for A3000/A2320 users, system-friendly mouse blanking, mouse acceleration/threshold, 'Pop-CLI', click-to-front/back, 'SunMouse', 'NoClick', 'WildStar', Northgate key remapping, & more. Requires Kickstart 2.0, but is not a commodity. Only 3K. V2.20 - update to V2.10 on disk 697.

### Disk 732

**FontViewer** - Used to view fonts. Features include selectable screen resolutions, outline font support (WB 2.0), ColorFont support, up to thirty fonts shown at once with each in its own window, up to three lines of changeable text for viewing fonts, use file requester to find fonts to view (WB 2.0). V1.2.

**MPE** - A compiler tool for users of the M2amiga programming environment. MPE does the same job better than your batch file. You can do everything with the mouse or the right amiga key. With this Module-2 Programming Environment you can compile, link, & run your program. When there is an error, the editor is started automatically. You can set all switches for M2C, M2L, M2Make, M2Project, & M2LibLink. V1.31 - update to V1.17 on disk 703.

**PSUtils** - Some utilities for postscript & adobe fonts. Resetadobe (V 1.0) is a program to modify the AFM files of adobe fonts which do not appear to have the correct spacing after being generated by AFM2PFM. Postsplit (V 1.0) is a program to split a color PageStream postscript file into individual color/page files for multipass printing. PFM2AFM (V 1.0) generates AFM files for adobe fonts. T1Utils is a set of adobe font manipulation tools including a font disassembler.

**Riff** - A little IFF reader written in M2amiga Module-2. V1.0.

**RTracker** - A MOD player that is small, easy to use, highly configurable, follows CBM's style guide, supports automatic decompression of MODs, & more. V2.0.

### Disk 733

**AntiClicVir** - A link virus detector that detects 25 different such viruses. V1.6 - update to V1.5 on disk 710.

**Cube** - An animated Rubik's Cube simulator, solver, & tutorial. It uses two solving algorithms, one which can be applied by a human using simple rules, & another that is too complicated to be used except by a computer.

**Sushi** - A tool to intercept the raw serial output of Enforcer 2.8b, Enforcer megastack 26.1, Mungwall, & all other tool & application debugging output that uses kprintf. This makes it possible to use serial debugging on a single Amiga, without interfering with attached serial hardware such as modems & serial printers. Sushi also provides optional signalling & buffer access to an external display/watcher program. V3.7.

**Termcap** - A port of the GNU termcap library for the amiga. Termcap is a library of C functions & a database of terminal descriptions, that allows an application to send control strings to terminals in a way independent of the specific terminal type.







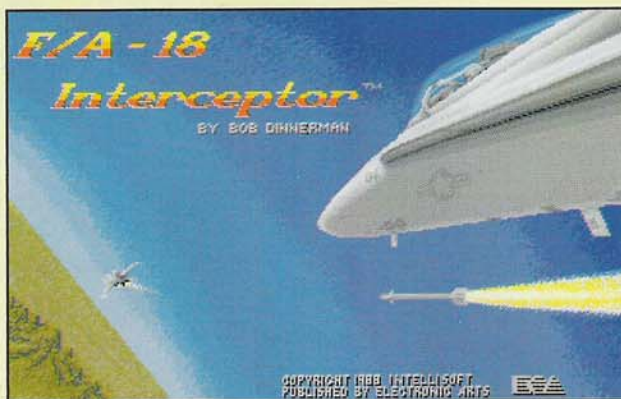
# Looking Back ... Ten Years of Commodore Gaming

Phil Campbell

It's 1993 - more than ten years after I gleefully unwrapped my "3583 bytes free" VIC 20. And what a machine. A real, fair dinkum keyboard (unlike the competing Atari 400), eight vivid colours, and a sound chip that could make all sorts of interesting noises. What more could you ever ask for?

Well, a few game cartridges, maybe. So I saved and I saved. After all, \$49.95 seemed like quite a lot of money back then - the asking price for *Space Invaders*. But boy, was it good! Almost exactly the same as the arcade version, with the same thud, thud, thud soundtrack and the same little alien grebbles marching down the screen. A top class effort.

And that was just the start. Next came *Jelly Monsters*, a magnificently executed *Pac-Man* clone. So good, in fact, that Atari legal action forced Commodore to withdraw the game from the market.



*F/A-18 Interceptor - Still one of the best flight Simulators*

*Jelly Monsters* featured a smaller maze than its arcade counterpart, but the monsters were the same, and the action was frenetic. Just quietly, for me this was the high point of home computer gaming - I spent more hours in front of *Jelly Monsters* than any other game since. And was I ever good!

The cartridges kept on rolling in. *Serpentine* was another beauty; the aim was to manoeuvre an ever growing snake around a series of tricky mazes without bumping into the walls or col-

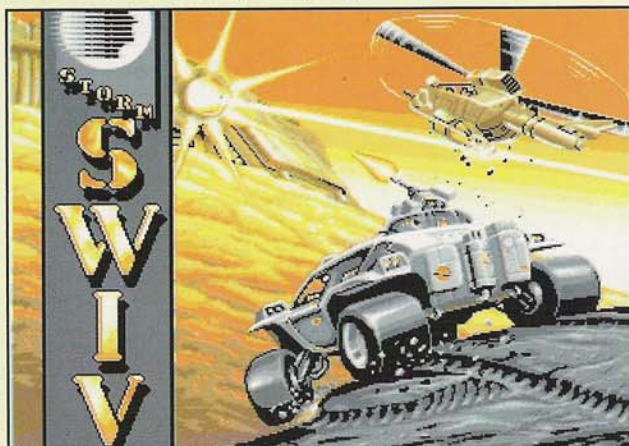
liding with your tail. Fun, fun, fun!

In the Adventure Game arena, the Scott Adams Adventure series soon appeared - also on cartridge. Text only, of course, but what text! Humour, excitement, pathos ... these weren't just games, they were works of literature. Well, okay - maybe the mists of time have made me a little less critical than I should be, but they weren't bad fun.

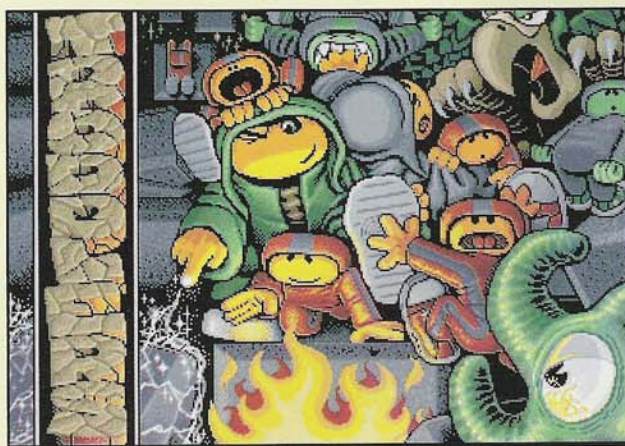
It wasn't long, of course, before games on cassette were flooding the market. Commodore initially dominated the cartridge market, but almost anyone could enter the datasette domain. Including me, with a nifty set of guitar tutorials that featured a fully animated fretboard with a jumping dot and synchronised sound track. I liked it, anyway.

Adventures on tape were popular too - including one little gem that still rates as the only adventure game I ever finished. I can't remember the name, but I

*SilkWorm IV (SWIV), a great shoot-em-up*



*Troddlers - not quite as good as Lemmings*





can remember the fact that the combination to the lock on the final door was 710 037. I worked it out by reading *Leo Oils's* tombstone upside down. Tricky, eh? Yeah, I know games are tougher now, but that was about my limit.

## New kid - the C64

It was late 1982, and suddenly there was a new kid on the block. The Commodore 64. More colours, a massive 64k of memory, and a sound synthesiser chip that left everything else for dead. Everyone wanted one, but at \$799, the cost was prohibitive, especially if you lashed out and bought a ... gulp ... disk drive as well.

Within a year, though, the VIC 20 was as good as dead. A sad shame, because it was the last computer I ever really understood - after all, the memory map was small enough to keep in your head. Anyone else remember POKE 36878,0? No use crying over spilt milk, though - the C64 was alive and well. In fact, it was positively thriving. And so was the game market.

Disks were soon all the rage, although cartridges and datasets were still a healthy option. Early software efforts were impressive compared to the VIC 20. *Neoclyps* - one of my favourites - was similar to the arcade classic *Scrambler*, and very fast and smooth to play. Even so, it wasn't until around 1986 that guys like Stavros Fasoulas and Andrew Braybrook started pushing the C64 to the limits.

We're talking top class programming here, folks - metallic textures on huge space ships, spinning delta wing space fighters, soundtracks that you could just about dance to ... it was another golden age for Commodore gamers. Best of all was *Impossible Mission*, an Epyx game set in a series of towers connected by lifts and corridors. Your job was to find and neutralise the mad professor before he destroyed the world - and right from the digitised "Welcome ... HA HA HA HA HA!" in the intro sequence, you knew the game was something special. The character animation was exceptional - your little guy on the screen



*Zool - my favourite platform game*

ran and jumped and tumbled with incredible grace. He was real. And so was the excitement.

## First Amiga

I bought my first Amiga back in 1987. And immediately, I was confused - lost in a maze of Amiga DOS and a memory so huge I couldn't even start to comprehend it. A whole megabyte! And all those colours ... well, okay, nobody was doing much with 4096 colour HAM mode, but even the 32 colours in low res were a pretty good start. And even average games like *Gold Runner* featured digitised voices and graphics that made the C64 pale in comparison.

It's a funny thing, though, the high points in Amiga gaming are a bit harder to pin down. I guess we'll have to start with *FA-18 Interceptor*, still among the best flight sims around. Just like Arnotts biscuits, it's the original and best. It was a flight sim that really made you feel like you were flying - and isn't that what it's all about?

Here's another one you probably won't even remember. From a time well before Ninja games were all-the-rage, *Ninja Mission* was released on a now defunct budget label. And funnily enough, it was superb. The guys on the screen moved amazingly well, the action was fast and joystick control was simple and direct. Fun, fun, fun.

Shoot-em-up fans have had plenty of thrills from the Amiga. In my books, it's a three way tie for line honours between *Xenon 2 - Megablast*, *Silk-*

*worm* and *SWIV*. They're all classic games, with stupendous Amiga effects. Graphics in all three are polished, and they all feature beautiful explosions. Hmm - I guess that's the key to an impressive game if you're looking for destructo-thrills.

Perhaps the best game of all time anywhere was *Lemmings*. Only perhaps, because *Jelly Monsters* on the VIC 20 comes awfully close. In any case, *Lemmings* was unique. With a bunch of stupid rodents wandering aimlessly off cliffs and into mincers, it was up to you to save the day with some judicious mouse clicking. And if you've seen it you'll know. It's the sort of game you just can't turn off.

Other games have come close to generating the same appeal. *Troddlers* is one. Close, but not quite.

Platforms-and-ladders games have been popular since the time of good ol' *Donkey Kong*, which would have been called *Monkey Kong* but for a Japanese misprint. From this humble beginning, there are now all sorts of games featuring hopping, jumping heroes moving through torturous up, down and sideways landscapes. Lately there have been some good ones, like *Fire and Ice*, *Titus the Fox*, and - my favourite - *Zool*.

That just about brings us up to date. So what of the future? We're looking down the barrel at machines like the Amiga 1200, featuring the advance chipset and a delightful 256 colour palette - maybe you've got one already?

I guess the first thing we'll see are Super-VGA games ported across from the world of IBM compatibility. It's ironic really - two years ago we'd all complain when a game was an IBM conversion, because the graphics were scungy looking 16 colour low resolution monstrosities. Now it's the other way around!

In time, of course, we can look forward to some purpose built software for the new breed of Amigas - and with our already top-class sprite management technology and blisteringly fast blitter chips, we'll soon be playing photo-realistic games with life-like animation and sound. And we'll be doing it better than anyone else!

o



# Adventurers - Start Here

One of the most popular sections of our monthly *Australian Commodore and Amiga Review* magazine is Michael Spiteri's *Adventurers' Realm*. Mike's been running the Realm for over six years, and over that time he's built up a huge library of hints and tips and an equally huge network of expert adventure gamers.

In each monthly issue of ACAR, Mike is able to help dozens of readers stuck in imponderable predicaments in all sorts of adventure games - not only that, he offers to mail out free hint sheets on all the most popular games. It's a terrific free service for ACAR readers, and for readers of the Annual as well. Just check out the list of free hint sheets below, choose up to four, and send a note specifying which ones you'd like with a stamped self addressed envelope to: Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810.

## Free Adventure Hint Sheets

*Monkey Island 1, Monkey Island 2, Space Quest III, Space Quest IV, Wonderland, Leisure Suit Larry III, Champions of Krynn, Kings Quest V, Pools of Radiance, Zak McKracken, Maniac Mansion, Zork 1, Zork 2, Zork 3, Bards Tale I, Bards Tale II, Bards Tale III, Hitchhiker's Guide to the Galaxy, Guild of Thieves, Jinxter, Pawn, Corruption, Faery Tale.*

*Ultima VII - coming soon*



*Legend*



*Black Crypt*



## Hint Books

If you're still hungry for help, check out Mike's two official *Adventurers' Realm Hint Books*. Book 2 is available from our office at 21 Darley Rd Randwick 2031, at the very modest price of \$10. For more information, contact Darrien on (02) 398 5111.

For your cash you get detailed cryptic hints for over 25 top notch adventure games, as well as pages and pages of mapping sheets. The book is A4 size, and features a big green dragon on the cover. By the way, its title is: *Computer Adventure Games - Hints & Tips*.

If you're looking for a copy of the original hints book, you may be out of luck - it's almost sold out. Contact the Realm direct by writing to 12 Bridle Place, Pakenham, Vic 3810. If there are any left, \$9.00 will buy you a top class book containing hints for over 40 adventure games!

## Adventure Trends

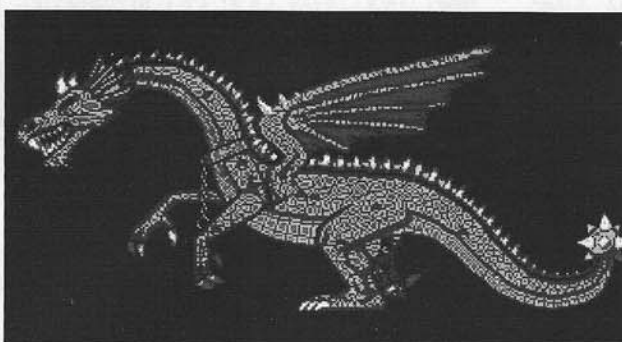
What can adventurers look forward to in 1993? Well, adventure games are still as popular as ever with new titles being released by the truckload ... well, almost. Take Sierra for example, they have just released chapter six in the *Kings Quest* series, and *Space Quest V: The Next Mutation* is due out soon, alongside *Quest for Glory III: Wages of War*, and *Eco Quest*.



*II: Lost Secret of the Rainforest*. Origin plans to release chapter 7, 7 and a half, and 8 of its *Ultima* saga, and Interplay have *Lord of the Rings II: The Two Towers* on their books for this year. Yes folks, like last year, 1993 is going to be another year of the sequels. Doesn't anyone have any original ideas out there?

Again, though, the release of Commodore's new stable of Amigas should give things a nice boost - the latest "graphics-intensive" adventures will be easier to develop for multiple platforms, and we should see plenty of nice looking stuff.

Role Playing fanatics have got plenty in store during 1993 too. One RPG title that Electronic Arts are bringing out is called *Space Hulk*. Set in the nether regions of galaxies far, far away, *Space Hulk* places you in the Space Marines From The Blood Angels Chapter Of The Legionis Astartes (whew!



*Dragon's Breath*

Looooooooong name!) in the never ending battle against a nasty alien race known as the Genestealers. The Space Hulks in question refer to the giant spacecraft commanded by these Genestealers, and it is up to you to repel this nefarious threat to all humankind. Don't worry, as you won't take on the aliens with your bare fists. Get ready to put on some of the best technology available, from protective power armour to the latest in laser cutters.

*The Summoning* is SSI's latest foray

into the RPG world. Explore over 30 levels of mazes, dungeons, castles, and other creepy locations in a game which utilizes colourful isometric graphics, a comprehensive inventory system, icon interface, and multiple storyline endings. And wait! There's automapping too! Expect to be summoned into combat sometime later this year.

Naturally, I could not let the SSI PR manager escape without squeezing some information on future AD&D releases. *Eye Of The Beholder III* is well on its road to completion, with the Amiga version hopefully due by the middle of 1993. *DarkSun: Shattered Lands* has been put back for a short while to fine tune the new 16-bit AD&D interface being developed by SSI. It also looks like SSI's "M" (a futuristic RPG) might take a bit longer than expected to appear on software shelves. □

## Computer Adventure Games - Hints and Tips

### (The Second Adventurers Realm Hint Book)

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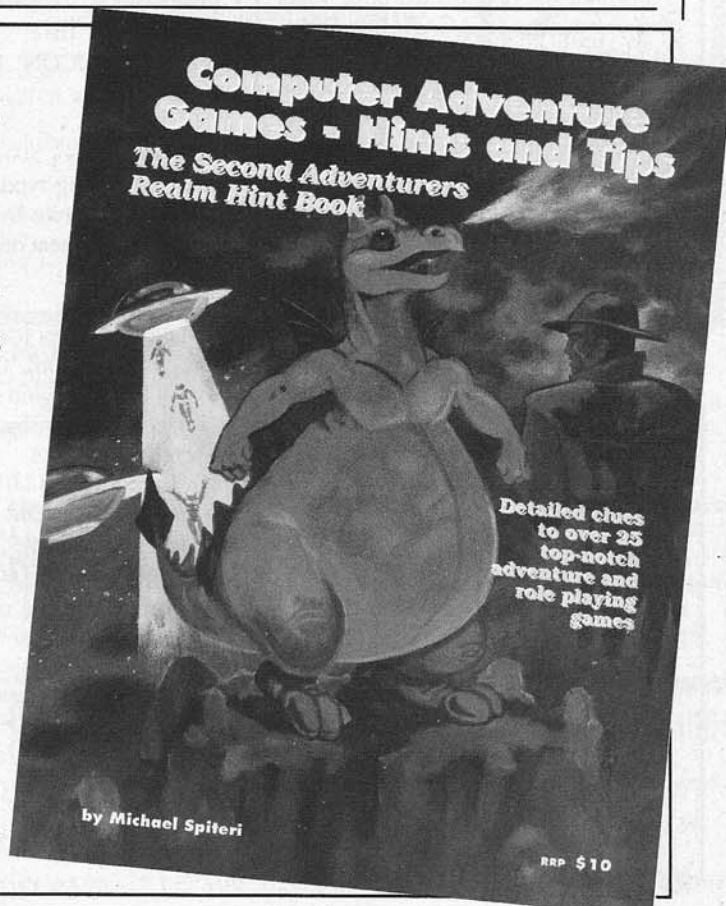
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# Here's Help

If you want to see ALL the levels of those games you slaved so long to pay for, read on. *Australian Commodore and Amiga Review* magazine is an excellent forum for exchanging hints and tips - just how do you get through level three of *Silkworm*, anyway? And what's the pass code to get me through level 5 of *Horror Zombies from the Crypt*?

So how do you get help? First, you can write to our monthly hints and tips section in *Australian Commodore and Amiga Review*, c/o entertainment editor Phil Campbell, PO Box 23, Maclean NSW 2463. We'll publish your problem, and someone smarter than both of us will write in with the solution.

Second, we've collected three years of tips on our special ACAR Hints Disks. To obtain a disk (Disks 1 and 2 available), send a blank Amiga disk, a cheque for \$5.00, and a stamped self addressed envelope to Phil Campbell, PO Box 23 Maclean NSW 2463. You'll find help for literally thousands of games!

Finally, you can keep reading here - you'll find some samples of the type of hints we publish monthly in ACAR, and you just might find exactly the help you're looking for.

## Arkanoïd II: Revenge of Doh

Before starting a game press the CAPS LOCK key and type 'DALEY88' for infinite lives, or on the title screen type

'PETEJOHNSONWANTSHEAT' (no spaces and no caps lock) and pressing 'S' in-game opens the exits.

## Astro Marine Corp

The level codes are:  
NOSTROMO  
DISCOVERY  
ENTERPRISE  
DAGOBAN  
REPLICANT

KRULL  
METROPOLIS  
BEACH VOLLEY

In-game type 'DADDYBRACEY' (no space) to activate the cheat mode. Pressing F1 in-game will advance you a level.

## Beverley Hills Cop

On the screen displaying difficulty selection for the game type 'MELLIE', you can now access all the games.

## Car-Vup

On the high score table type or enter your name as 'R.J.TOONE' for infinite lives.

## Cybernoïd II: The Revenge

On the title screen type 'NECRONOMICON' (no spaces) for infinite lives.

## Dogs of War

Before starting type 'TIMBO' then press F5 for infinite lives. Pressing F5 again turns the cheat on/off.

## Dyter-07

When the games loading screen appears, type the word 'GIBB'. In-game pressing 'W' gives you extra weaponry; 'S' replenishes your shield; and 'L' skips the level.

## Fenandex Must Die

In-game pause the game and type 'SPINYNORMAN' (no spaces) for infinite lives.

## Fighter Bomber

To access any mission simply enter the pilot's name as 'BUCKAROO', then proceed as normal.

## Gauntlet II

When you get the "Locked treasure

chests can insert helpful items" message find a key and a locked treasure chest. Hold down 'INSERT' when you open the chest. Release 'INSERT' and hold the joystick down. Now the help key will give you 5000 health points.

## Hard Drivin'

Choose manual gears and when at full speed change back into neutral gear. You cannot skid and you should not blow up from collisions. This will also work for *Hard Drivin' II: Drive Harder*.

## Hammerfist

Enter 'TAEHC OT TNAW' (with spaces) into the high score table, and in-game pressing 'F7' will advance you one screen at a time.

## Nitro

Enter your name as 'MAJ' then you will be awarded 5000 fuel points and 50 coins.

## Peter Beardsley's International Soccer

Continual tapping of the fire button while in possession of the ball prevents any other players from tackling.

## Test Drive II: The Duel

On level two type 'BRULE' to make the road signs change.

## Thunderblade

Type 'CRASH' on the high score table, then in-game pressing 'HELP' advances you a level.

## Viking Child

All the codes for the game are listed below:

Level 1: IMAGITEC  
Level 2: JOJOSM  
Level 3: GUSTAVUS  
Level 4: NINJADL



### Weird Dreams

In-game, in the hall of mirrors, stand halfway through anyone and tap out 'SOS' in morse code with the 'HELP' key. That's dot-dot-dot, dash-dash-dash, dot-dot-dot.

### Action Replay

A few Action Replay cheats which will help you improve your chances of finally getting to see the end of that awfully hard game ...

**Apprentice** - TFD 01C358P47 - TFD 009337 or 009336

**Horror Zombies from the Crypt** - TFD 042DAZIRIAX - TFD 000316

**Bubble Bobble** - TFD C09FFE

**Toki** - TFD 023CD9

**Pegasus** - TFD 01A002

**Jim Power in Mutant Planet** - TFD 0005AB

### Populous II

For full power in all areas of divine effects, use the deity code: ADKIUCKCZNFIFIWL

### Robocod

Here's a cheat for that infamous *Robocod*: Press CTRL and the screen will flash. Now press RETURN to become invulnerable.

### Last Ninja III

Here's a special way to reach all six levels. All you do is type on the high score screen one of these six level codes:

1. SUSS
2. IMED
3. URTI
4. BASD
5. NOUS
6. RERO

### Terminator 2

To make Arnie skip levels, simply PAUSE the game and press the Function keys in order, then unpauses it. Now pressing ESC will skip levels.

### Predator 2

Pause the game and type in "YOUR ONE UGLY MOTHER ——" twice and unpauses the game. Use your imagi-

nation for the dashes. (Editor's Note: I know that's not how you spell "YOUR". But maybe programmers can't spell?)

### F-19 Stealth Fighter

Press ALT-R and then ALT-T for 9 of everything.

### Booty

On the title screen hold down the keys KEVIN for cheat mode activation.

### Gremlin 2

Type SINATRA on the high score table for infinite lives.

### Turrican

Type BLUESMOBIL for 99 lives.

### Turrican 2

Press 1 4 2 ESC ESC in that order on the music selection screen for infinite lives and energy.

### Defender of the Crown

Press K while the game is loading for 1024 knights and soldiers.

### Barbarian (Psygnosis)

Type the numbers 04 08 59 (with spaces) for infinite lives.

### Bio Challenge

Pause, then press G to meet the end of level gardian.

### Horror Zombies from the Crypt

If you type 'Bogeyman' during *Horror Zombies from the Crypt*, you'll have infinite lives. Better still, here are the access codes for all levels of the game.

- Level 1: Not needed.
- Level 2: WOLFMAN
- Level 3: HAMMER
- Level 4: LUGOSI
- Level 5: NOSFERATU
- Level 6: GARLIC

### Shinobi

Here's a handy martial arts tip. Don't mess with anyone bigger than you are. Here's another one. For infinite lives in *Shinobi*, Pause the game and type 'LARSXVIII' - now unpauses, and you'll last for ever.

### Silkworm

Still the second best blast ever! Hold down the HELP key on the control options screen and press fire for infinite lives. If that doesn't work type 'SCRAP 28' (with space) on the same screen for the same effect.

### SWIV

Press P to pause the game then type 'NCC-1701' then press 'N'; the screen will flash. Press 'P' again to unpauses and from there on both players will now have infinite lives. (The '-' symbol refers to the one on the main keyboard NOT the numeric keypad.

### Indianapolis 500

Here's a helping hand for the motorheads among us In *Indy 500*, when qualifying use only 10 litres of fuel, and when you are racing a 10 lap race, use only 15 litres of fuel. And one more thing ... remember to keep your shocks firm and wheel difference at +1.00 inch.

### Jaguar XJ-220

Another driving tip ... When the CD player screen appears in *Jaguar XJ-220*, choose a silly tune and exit. This will make the race go 2-3 times quicker.

## Cartridge Cheats ...

The following cheats give extra or infinite lives, but you'll need an Action Replay cartridge to make the most of them!:

The Simpsons - 006021  
 Xenon II - 000CCB  
 Gods - 000255PP  
 Hammer - 01058F  
 Chuck Rock - 00697F  
 Robocop II - 001695  
 License to Kill - 01081F  
 St Dragon - 01160B  
 Backlash - 00A0C0  
 James Pond - 0001B1  
 Baal - 00FA20  
 Wizball - 05907D  
 Super Wonder Boy - 009F9 (this gives you credits)  
 Brat - 0080B7  
 Switchblade II - 00261F



### Navy Seals

After the flop of the movie, the game wasn't much of an improvement. Still, type PSBOYS on the highscore table. Then press ESC to skip levels.

### Judge Dredd

Although an aging game, old Judge is still very hard. So to skip levels, follow these simple commands. Log on the computer as DREDD. Then type BRUCKEN PLAYING HEROQUEST.

### Super Cars II

To access the cheat mode in one of my favourite games, enter player one's name as 'Wonderland' and player two's name as 'The Seer'.

### Super Off Road Racer

To get infinite credits, says Bruce, before inserting the disk hold down the fire button or use the auto fire button. Keep the button down until you get to the selection screen. Play the first race

and when the shop screen comes up, if the credit window has symbols instead of numbers then the cheat worked. But, Bruce notes, you will still have to push the fire button to continue when you lose a race.

### The Simpsons

1. When the title screen appears (where the family is watching the telly) type in COWABUNGA. Now when you start the game you should have infinite lives.

2. Instead of leaping onto the phone booth, try using a coin in it. Bart will then phone Moe's, a person will then come along wearing a purple track-suit. Spray him to bring the counter down by one.

3. Stand by the last window in the Springfield Retirement Home and blow the whistle. A man will appear throwing money, so grab as much as you can.

4. When you get to the sweet plat-

forms (on level two) jump onto the second platform and jump on it three times. It should turn white and carry you across to the other side of the cement.

### Thunderhawk

To destroy the bridge in *Thunderhawk*, you must drop a couple of Mk-81 or Mk-82 bombs on it. In order for this to work, when you drop the bombs your helicopter must be above 250 or 500 feet, depending on the type of bomb you're using.

### R-Type

From the same reader comes the fact that in level 4 of R-Type there are two holes in the top of the screen. Go into the second one for the secret stage.

### Killing Game Show

While the replay is playing hit the HELP key and you'll restart from that point with five lives. □

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## Contributors Wanted

Although we have a solid core of regular contributors for our monthly magazine *Australian Commodore and Amiga Review*, we always welcome new authors to our ranks. We prefer to receive "how-to" type articles, comparisons or "getting the most out of..." tutorials.

If you have an idea you would like to discuss, telephone our editorial office on (02) 879 7455. We can arrange to have an expanded contributor guide posted to you containing all the information you'll need to know.

In brief, we can accept material via modem, in fact, this is the preferred method. You can also send in a disk containing a clean ASCII text file - that is, one without any special formatting. Pictures, screen-grabs or illustrations should be included separately and clearly labelled. The most important thing to include is your day time phone number.

The sheer volume of letters which pass through our office make it impossible to respond in writing. Normally, we will contact you by telephone if your contribution is accepted. Like most magazines, we cannot promise to return your original materials.

If you're not sure of the style of writing, try reading articles by other regular contributors and adopt a similar approach. This normally involves small doses of humour, plenty of easy to follow explanations and a clear view that most people are only beginners.

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# TALK TO YOUR TELEVISION

## CDTV AVAILABLE FROM

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SA: Harris Scarfe.

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WA: Headlam Computers, Narrogin Computers,  
Regional Computers.

Phone Commodore (02) 428 7777 for a dealer near you.







# Amiga 3000

# No Problem

## Specifications

### Microprocessor

Motorola 68030 at 25Mhz

### Co-Processor

Numeric Co-Processor 68882 at 25Mhz  
Multi-chip Co-Processor system for DMA  
Video, Graphics and Sound.

### Memory

1Mb Chip RAM, expandable to 2Mb on board  
1Mb Fast RAM, expandable to 16Mb on board

### Internal High Speed SCSI hard drive

100 Mb 19 ms standard

### Built-in Display Enhancer

### Video Modes

640 x 256 16 colours  
640 x 512 16 colours  
320 x 256 4096 colours  
320 x 512 4096 colours  
1280 x 256 4 colours  
1280 x 512 4 colours  
1008 x 800 4 shades of grey\*  
1008 x 1024 4 shades of grey\*  
\* requires high resolution monitor

### Expansion Slots

4 Zorro III expansion slots  
2 PC/AT expansion slots  
1 video expansion slot  
1 CPU memory expansion slot

### Interface Connectors

23 pin Amiga video (15 KHz)  
15 pin VGA style video (31.5 KHz)  
Left and right stereo audio  
External disk drive, Serial, Parallel, Stereo  
Audio, Keyboard,  
Joystick/Mouse/Lightpen connectors and SCSI port

### Data Paths

32 bit CPU access to chip RAM  
32 bit Fast RAM, with custom controller supporting  
static column mode DRAMs and allowing  
CPU burst access  
32 bit DMA-based on board SCSI controller

### Internal Real Time Clock with battery back-up



For a supplier near you call  
(008) 805 067 (outside Sydney metro area)  
or (02) 428 7666

Harrow Media  
CBM9212